

applies himself, in spite of every obstacle, to rigid contemplation and study. The effect of this direction was at its utmost height when the native was eighteen years and four months old ; about which time, as he has since told me, he was so intent upon study, as to frame a contrivance to blind up the crevices of the doors and windows, that no part of the family might have a suspicion of his passing the greatest part of the night in reading and contemplating the different branches of science.

M.C. 8 6 . The medium-cœli to the opposition of Saturn. This is a no less remarkable than fatal direction, again appertaining to the native and his master. It shews an animosity between them, so far as it relates to the business ; but it presages the death of the master, and once more sets the apprentice at liberty ; as though fate had really striven with him to obtain a different pursuit. But here, as I have been confidently informed, the parent again interposed his sovereign authority, and, in spite of every argument, and of every importunity, so prejudiced was he in favour of the emoluments of trade, and so fixed in his mind upon that which he had before singled out for his son, that he lost no time in choosing him out a new situation. Here we perceive, in its strongest colours, the absurdity as well as the evil consequence of *forcing* upon the hands of youth avocations which their nature lothes, and which are foreign both to their ability and their inclination. Let us here for a moment pause, and, look which way we will, we shall find ample testimonies of the truth of this mistaken zeal for the provision of our children. A zeal which has, more than all other causes put together, furnished the world with a race of *bunglers* in almost every profession ; for the mind, like the temperature of the body, cannot be forced, but will be governed by its own immediate laws ; a circumstance, which, if duly attended to, and regulated by the quality of the signifiers at birth, would not only prove much more highly advantageous to children, but infinitely more beneficial to masters of every craft and occupation.

⊕ □ ♀ — ♂ □ ♄ . These aspects are both made in the world ; and their directions are of course mundane. They are both quartiles of a pernicious tendency, and even threaten the life of the native. Under the influence of the first, he is put, sorely against his will, to a new master, with whom he shews but little disposition to attend to business. Under the second, which acts in contact with, or rather follows up, the evil nature of the first, his life is endangered by some violent accident of fire. This is most aptly denoted by the position of Mercury in a

fery

fiery sign, with the violent planet Mars, his significator, and the Part of Fortune, which in this nativity is giver of life, all in quartile aspect; but, whether this danger should occur to the native by his falling into the fire, or by the burning the house he lived in, or by what particular misfortune, was impossible to determine; but it was evident to my understanding that his danger would come by means of fire. After considering and reconsidering these configurations, I enquired of the native, whether he had not, some time between nineteen and twenty years of age, had the misfortune to set his bed-curtains on fire, or his room; for, as I knew he had often accustomed himself to read in bed, I had a strong suspicion that he had fallen asleep, and that the curtains had taken fire, and exposed him to the danger of being burnt in bed. But this he absolutely denied, and contended much for his carefulness and precaution on those occasions. Had he by any accident fallen into the fire? or had the candle caught his clothes? No; he never had met with such an accident in his life. I persisted most confidently that some such accident must have befallen him, and at that particular time, whereby he was exposed to great bodily hurt, if not to the danger of losing his life; and I requested him to reflect upon the matter, and to tell me ingenuously the fact. At last, he satisfied my doubts, by relating the following circumstance:

‘He had not been many days with his new master, before he was left in the shop with no other companion than a young lad, who had been put apprentice to the same person a year or two before. At the same time that the master’s absence furnished Mr. Witchell with an opportunity of taking a book from his pocket to read, which was invariably the case upon all such occasions, it afforded the other lad fit time to go to play. A soldier’s musquet stood in one corner of the shop, most aptly denoted by the quartile position of Mars, which the boy took up, and began to perform the manual exercise with. When he came to that part, “Make ready—present—fire,” he levelled the piece close to the body of his fellow-apprentice Witchell, who sat with the utmost calmness and composure, reading his book; a circumstance evidently implied by the position of Mercury. The boy drew the trigger, the gun snapped, and he recovered his arms. Pleased of course with any employment rather than with his business, he proceeded with the manual a second time. When he presented the piece again, it was elevated somewhat above Mr. Witchell’s head; he drew the trigger, the gun went off, and carried away a large piece of the window leaving both of them, as Providence would have it, totally unhurt. With this

I was quite satisfied, it relieved me from my doubts; and, upon equating the direction, I told him this must have happened on or very near the 26th of September, 1747; for, though the other aspect came up sooner, yet its influence was held on by the quick succession and similar quality of the co-operating or secondary aspect, which was not ripe in its malefic tendency until the day Mars began to separate from his auxiliaries, which was on the day above-mentioned, at which time the native was near twenty years of age. After endeavouring to recollect all the circumstances of the fact, he acknowledged I was strictly right in point of time, as well as in my judgment of the danger he had been exposed to by means of fire.

The astrological reason of this narrow but happy escape is thus defined from the native's horoscopolical figure of birth: In the eighth house, which is the house of death, we find the benevolent planet Jupiter, which is an irrefragable argument that the native should not die a violent, but a natural, death. Now, had Saturn or Mars been there, the evil had certainly touched his life. Another decisive testimony for the preservation of the native's life is, that the direction operating comes from a benefic planet; and, though the direction be of an evil quality, yet, as it is not governed by the anareta, nor by any cross direction either from Saturn, Mars, or the Sun, to the Part of Fortune, it is impossible, according to the radical import of the significators, that life should be destroyed, although exposed in this remarkable manner to the most unequivocal instrument of death.

I have dwelt the longer upon these two directions, because I consider them as the most remarkable in the whole figure; and I am sure their effect is equally extraordinary; besides, it tends to shew, that, in genitures where the significators clearly demonstrate a long life and natural death, and where no cross malefic configuration strongly irradiates the aphetic place, however the native, in his journey through life, may be exposed to the most imminent perils and dangers, yet, if benefic significators, as in the present nativity, have the ascendancy in point of dignity and constitution of place, he shall safely overcome them all, and enjoy life until that period of time arrives, when exhausted nature can no longer exercise her proper functions, and dissolution becomes the necessary consequence.

I do not here mean to enter into any arguments against that absurd stile of reasoning, which, resting all its force upon supposed propositions, will

will contend, that, if the musket had been pointed the second time at the body of the native, he must have been killed, let the stars have been posited how they might. But what man would be hardy enough seriously to avow this? or, if he did, it could avail nothing, since facts and suppositions would be still at variance. The piece was not levelled the second time at the native; and why it was not, who can define? It is enough for me to shew, that, by the native's figure of birth, he was not to receive any fatal injury; I will now thank the man, who by any other, or equally reasonable, hypothesis, will point out to me why the piece was not levelled at the native the second time? or, if it had, let him prove that the piece must of necessity have gone off, and that the consequent wound must have been mortal. When this is done, I shall be ready to give it an answer.

M. C. □ 4. This aspect imports no good; it is a quartile between Jupiter and the midheaven; and, as Jupiter is lord of the second and fifth houses, it declares loss of substance to the native, by the interference of some religious or clerical person, who should prove his enemy. This came up by direction in twenty years and five weeks from the time of birth; at which period of the native's life, as he hath frequently assured me, he was prevented from receiving a sum of money from a relation who had actually promised to give it him, but for the persuasions of the curate of the parish, who, having taken some offence at the native, set every engine at work to injure him in the opinion of his friends. This aspect is likewise baneful to all contracts or purchases under it.

○ 6 ♄ — M. C. 6 Cor Leo. — ⊕ 8 ♀. The Sun to the conjunction of Mercury, the midheaven to the conjunction of Cor Leonis, and the Part of Fortune to the opposition of Venus. These directions were all operating at nearly the same time. Under the first, he was very studiously inclined, and influenced to the regular pursuit of the mathematics. Under the second, he was introduced to the acquaintance of several respectable characters, eminent in the line of science, and who should feel a predilection in favour of the native. And this really laid the foundation for his being introduced into the mathematical society. The third direction operated with the last, and shews, that, while he was engaged in forming such connections as should introduce him into public life, he should fall pretty much in the way of the ladies, and that a large and perplexing female acquaintance would be the result, which is indicated by the opposition of Venus to the Part of Fortune.

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These two last directions have their force continued, in a more or less sensible degree; until the influence of some other direction begins to take place; and this, we find by looking in the Table of Directions, p. 687, admits a space of almost three years. And here let it be remembered, that the fulfilment of any matter or thing promised by a direction is completely formed when its aspect is in all respects perfect, and the irradiations of each contributing star fully complete; though, according to the latitude of that principal significator by which the direction is brought up, the subject of the matter or thing to be brought about may, by certain gradations of influence, be some time in preparation, ere the absolute event is really brought to pass. For, in the case of marriage, there is usually some time spent in courtship and dalliance, before the parties repair to the nuptial altar. But, when this is performed, or about to be performed, the exact working up of the direction fully demonstrates. So it is in all other cases where a matter is declared to be brought to pass by the force of a direction; except where a direction of a contrary quality, and superior strength, falls in its way, and overturns its tendency and influence; on all which occasions the thing originally predicted is set aside, and a contrary effect takes place; as we frequently observe in persons betrothed, who, even at the church-door, or before the altar, change their sentiments, and put the marriage aside. But, if no such cross directions interpose, and a length of time occurs between them, then the original aspect holds its own proper force and quality to the full extent, and whatever it denotes is in a general way fully completed, with all its consequences and contingent effects.

Afc. * ♃. Under this direction, the influence wrought by the last is brought to perfect maturity. A connexion with one of the ladies, which had for some time been formed, is now brought to its crisis; and, when this aspect was complete in all its rays, the parties were married. The personal description which this aspect gives of the wife, is of a middle stature, pale dark complexion, brown hair, comely, and agreeable; in mental endowments discreet and ingenious, rather petulant, and worldly-minded, and therefore sufficiently saving and frugal.

Afc. ♀ — ☉ 8 Afc. These are both directions of an evil designation. They import no small share of vexation and disagreement between the native and his wife, through the means of detraction, and the whispers of false female friends, connected with the native's wife, who sow the seeds of jealousy, and lay the foundation of enmity and discord, betwixt them. The attention of the native is thus for a time taken off from objects of preferment and advantage; his affairs go backward in the world, and he

suffers a two-fold anxiety of mind, accompanied with a depression of spirits, constitutional by the temperature of his significators at birth, but greatly enlarged by the force of this latter direction.

☿ * ☼ — ⊕ ♄ ☿. These aspects are found jointly operating, after the influence of the preceding are spent, though of an opposite action and quality. Under the first, the native assumes his former pursuit of literary acquisitions, and endeavours to enlarge his connexions with men of letters and character. He succeeds much to his wishes, being, at the time this direction came up, which was in twenty-five years and nearly a half from his birth, introduced to several gentlemen of the first literary talents and respectability, who promised him their patronage and friendship. But, in the height of these flattering prospects, the second direction, viz. the Part of Fortune to a conjunction of the Dragon's Tail, subjects the native to a violent sore throat and fever, occasioned by cold taken in pursuing the objects of the other direction. This affliction was very severe, and seized the native, as he hath since assured me, when he was twenty-five years and a half old, and confined him to his bed for near a fortnight.

☼ Δ ♄. This direction imports much good to the native, from those who are his superiors. Under its influence he will extend his literary connexions; and will derive honour and estimation from the extent of his own abilities, in the opinion of those who are disposed to serve him. This direction likewise, from the prolific situation of the significators in the figure of birth, imports conception to the native's wife, which, I have no scruple to affirm, took place under its influence.

☿ Δ ☿. This is a very flattering direction, and presages much good to the native. Under its force he will apply very close to scientific exercises, and enlarge the number of his friends. It was under this direction he was introduced to the acquaintance of Dr. Bevis, who was afterwards very much his friend, and rendered him several eminent services. This gentleman was a great encourager of scientific speculations, and was so perfectly master of astrology, as to have calculated several national events, which severally came to pass with the most remarkable exactness.

M. C. ♄ ♄. This direction implies good to the native, because Mars is lord of the ascendant; otherwise it would have operated to his disadvantage. He was warmly engaged in astronomical enquiries, when

this direction operated, which likewise introduced him to a further acquaintance with gentlemen eminently distinguished in that line. It was at this time that he became intimately acquainted with Mr. Charles Brent, Astrologer to George II. under whose royal authority and direction he calculated the nativity of our present illustrious monarch, King George the Third ; a copy of which nativity he presented to Mr. Witchell, who afterwards gave it to me, and which I have now sydereally projected in the annexed plate.

M. C. Δ γ . Under this direction the native hath a son born. It hath likewise a strong intellectual operation upon the native himself, who is impelled to a critical investigation of the then state of the several departments of science, and imports great honour and pecuniary advantage from his labours therein, and accelerates his desires for attempting to improve them. I have had a great deal of conversation with Mr. Witchell on the subject of this direction, which I considered somewhat remarkable ; and he assures me that it was about the time when this direction came up, namely, when he had completed his twenty-seventh year, that the first thought of correcting and improving the longitude presented itself to his mind, and which was ever after inseparable from it, until he had fully accomplished that most invaluable discovery.

\triangleright Smq. \odot M.— \odot * γ M. The Moon to the semiquartile of the Sun in Mundo, and the Moon to the sextile of Venus in Mundo. Here are two generally good directions operating together, which promise the native health of body and felicity of mind. The affairs of his family will prosper under them, and all matters relating to substance and advantage will succeed well. He takes several little journeys, which shall prove profitable and pleasant, and hath the pleasure of receiving some unequivocal marks of the sincerity and confidence of his friends. And the native frankly acknowledged to me, that no part of his life was so free from the intrusions of care and perplexity as the space of time occupied by these two aspects, which carry him from the twenty-seventh to the twenty-eighth year his age.

\oplus Δ γ M—Asc. \square γ . The first of these joint directions hath the designation of much good to the native ; for, while it prompts him to a laudable pursuit in the improvements of science, it will enlarge the circle of his friends, and promote his reputation with the world. But, as the brightest day is not without its clouds, so this direction is united with one not quite so auspicious. The quartile of Venus to the ascendant

dant is productive of family broils and dissensions. Jealousies are renewed under this direction; and the native perhaps will find, that dealings with the fair sex are not altogether so profitable to him; on the contrary, he will experience, about this time, the strongest exertions of a quondam favourite female to work his destruction, which, however, she will not be able to effect. Under this direction the native's wife conceives a second time with a male child.

♃ □ ♄ M. Jupiter to the quartile of Saturn in Mundo. This direction continues the baneful effects of the former, transferring the malignity of his female enemy to those of his male, whereby a variety of unpleasant occurrences follow, and many mean and ungenerous advantages are attempted to be taken of him. This is followed by a consequent loss of substance, which appears ultimately the means of terminating the evil machinations enforced against him. Were the particulars of this series of vexation and perplexity to be unfolded, with the cause which gave them being, it might tend to strengthen the reputation of planetary prescience; but the best of people are not without their weak side, and God forbid I should take pleasure in exposing the foibles of any man, much less of one who may be ranked among the number of the most deserving, and to whom I am under many obligations. Suffice it to say, that the party of the offended female made head against him, until he consented to pay a handsome *douceur*, which, as he himself informed me, put an end to hostilities, and restored the olive-branch of peace.

☉ Δ ♂ M. This direction promises advantage to the native; the Sun being lord of the tenth, and Mars of the ascendant. This denotes prosperity and respect, and some advantage by the fidelity and ability of good servants. It likewise gives the native several mathematical scholars, who become students under him.

M. C. 8 ♀. Under the mal-influence of this direction, the native feels the vindictive shafts of private enemies, and again encounters some family broils and disingenuous reflections, which likewise originate from a female cause, and for a time disturb the internal tranquillity of his mind.

☉ * ♀. This direction restores peace and harmony to his family, gives him another pupil in the study of the mathematics, and all things go on smoothly, and much to the native's satisfaction and advantage.
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He receives pleasure in the pursuits of several amusements, and is on terms of perfect amity with his wife and her friends. Under this direction likewise Mrs. Witchell becomes pregnant with a daughter, and has the prospect of a safe and healthful time.

⊕ * ♀ M. This direction operates upon the mental faculties, and promises much good to the native. Under its influence he writes the Mathematical Magazine, and acquires unbounded reputation in the literary world. He also obtains an increase of pupils to his mathematical school, and meets with encouragement and success in all his undertakings.

♂ Z. P. ♄. The Moon to the zodiacal parallel of Saturn. This direction imports no pleasing occurrence to the native; under its operation his father falls sick, and his family is oppressed with vexation and sorrow, arising from those evils which chequer life, and render the most perfect state of human bliss mutable and precarious. The native himself will be much afflicted with melancholy by this direction.

♂ Z. P. ♂. The Moon to the zodiacal parallel of Mars. This gave Mrs. Witchell another daughter, and demonstrates a bad and sickly labour, attended with a dangerous fever to the native, as is declared by the constitution of this parallel with Mars; for parallels are either good or bad, according to the nature and quality of the planets by which they are respectively brought up. This judgment is likewise confirmed by the position of the Dragon's Tail in the tenth.

⊕ Δ ♀ M. This configuration, being in Mundo, denotes encrease of substance to the native, either by legacy or by hereditary right to the effects of some deceased person, which happened when this direction was completely wrought. It likewise indicates prosperity to the native, by means of professional application and perseverance in the objects before him.

♂ Smq. ♀ M.—⊕ □ ♀. These are directions which induce a sort of chequered life to the native; for, having an opposite quality and influence to each other, whatever the one impels the other counteracts, and renders all attempts and all endeavours, while these directions are operating, totally abortive. The native will take some short journeys under the constitution of these aspects, in the hope of obtaining preferment; but his labours will prove fruitless, and his present hopes terminate in disappointment.

disappointment. Just so, as the native himself assured me, was the greater part of his thirty-sixth year distinguished, at which period these directions yielded their influence; and many times, when he had reason to expect the full completion of his wishes, some untoward circumstance or other constantly intervened, to set his hopes aside.

© Q. ♄ — ♃ & ♄. These directions are fraught with no good, but threaten great anxiety of mind and depression of spirits to the native, resulting from some secret enemies, who make a point of opposing his career, and who vilify and traduce him to some persons of distinction and power. He will likewise suffer some affliction in his eyes, and dizziness of the head, with melancholy and perturbation of mind, whilst the second direction is under its operation.

♃ * ♄. The Moon to the sextile of Saturn, by converse motion. Under this direction the native has another daughter born; but its influence upon his temporal affairs is but little better than the former; since this aspect comes up very quickly after them, and participates of their quality and temperature. The native recovers completely from his indisposition; but the vicissitudes of fortune, and the vexations of his mind, continue with little abatement, until the effects of this direction are wholly taken off by the succession of another.

♃ * ♄. This is a very promising direction, replete with happiness and good fortune to the native. The powers of sense, of discernment, and invention, are here strongly combined, and the result leads to prosperity and fame. The native's discoveries in the longitude are here most aptly depicted; and I have no doubt, but under the force of this direction they were rendered complete. The friendly rays of the Moon and Mercury, in elevated places of the horoscope, are uniformly productive of the most acute intellectual endowments; but relate, in a more peculiar manner, to an extensive knowledge in science, and to an unbounded comprehension of the power and extent of figures. This direction came up in thirty-eight years and eight months from the hour of birth, at which period the native made his last and final improvements in the longitude, for which his Majesty rewarded him with a liberal annuity during the residue of his life. Let it be remembered that this aspect falls in twenty-five degrees fifteen minutes of Aquaries; and that the nature of these planets being so exactly constituted with the quality of the sign, clearly demonstrates that the improvement and discovery, brought up by this direction, should, in a particular manner,

relate to the sea ; a circumstance deserving the attention of every curious reader.

☉ Smq. 4 M. Part of Fortune to the semiquartile of Jupiter in mundo. Under this direction the native suffers a slight indisposition. The internal peace of his family will likewise be disturbed, from a female cause ; which, however, will shortly subside. He will likewise experience some short perplexity in money-matters, which perhaps may make him more cautious of supplying the necessities of others, before he provides for his own.

♂ Δ ☉ M. This aspect brings fresh honour and reputation to the native ; for under its influence he will experience the united recommendations and good offices of his friends. The direction comes up in May 1766, and holds on to the middle of October following, as may be seen in the Table of Directions belonging to this nativity, p. 689 ; in which space Mr. Witchell has assured me he experienced the most remarkable instances of civility and friendship from several members of the Royal Society, and from other gentlemen of distinguished merit.

♂ Z. P. ♄ . This direction participates much of the benevolent nature of the preceding, and promises additional prosperity to the native in a most eminent degree. It prepares and fortifies his mind for fresh studies, and influences a laborious application to books, and to experimental philosophy. Under this direction we perceive the foundation of a journey, which will probably be taken in consequence of some advantageous occurrence.

♂ * ♄ . This and the foregoing direction have in many respects a joint influence, as they follow in so quick a succession, and participate of the same benignant quality. This aspect completes the good fortune begun by the former ♂ * ♄ , under which he received a reward for his discoveries. The present benignant configuration, constituted with other rays, brings him a fresh instance of the approbation of his Royal Sovereign, who appoints him, under this direction, to the Mastership of the Royal Academy at Portsmouth. This direction comes up in November 1766, and operates until the month of October 1767, at which time another direction succeeds. Mr. Witchell took possession of his new-appointed office the 26th of March, 1767, when this direction was in its utmost force. And we might here trace the completion of that journey,

journey, predicted under the last direction, which now conveys the native and his family to a new residence, in a different part of the kingdom. And, if we contemplate the quality and position of the corresponding significators, with the affinity of Mercury and Venus, and the sign they are posited in, near the fortunate node of the Moon, we shall find that they exactly describe the situation to which the native's family should remove, and that their residence should be permanent and prosperous.

▷ Smq. & M. This is likewise a prosperous direction, and still continues the good effects of the former three. The native derives advantage and pleasure from an acquisition of new friends and acquaintance, addicts himself to literary pursuits, and is more studious than for a considerable time before. Under this direction, as I since learn, he published his *Mathematical Queries*.

⊙ ♄ ♀. The Sun to the conjunction of Venus, by converse motion. Although this aspect is fraught with some good, and gives the native an addition to his family by the birth of a daughter, yet the effect of its direction will bring to pass some unpleasant occurrences, particularly relating to the female part of his family, which is obvious in this configuration, by Venus being constituted lady of the eighth and twelfth houses.

▷ ♄ ♀ M. This gives the native some fruitless journeys to several eminent persons, from which he returns with no great share of content. He will lose money by some speculative adventure; and, whatever scheme he sets on foot under this direction, either for emolument or fame, will prove abortive, and eventually tend to his disadvantage and prejudice. About this time, I find Mr. Witchell lost a large sum by adventuring in the lottery.

▷ □ ♀. This configuration is made in the zodiac, and participates of the same unfriendly quality with the last. The Moon is lady of the ninth, and Jupiter lord of the fifth and second, whereby this direction will bring up loss of substance to the native, by means of the non-ability of some quondam friend, or clerical person, to fulfil his engagements in money-concerns. It likewise argues the exertions of some private enemy, to blast the native's character and reputation, with regard to his friends and family. This occurrence, the native told me, he had too much reason to recollect, with heart-felt regret.

⊙ P. ♄ M.

☉ P. & M. The Sun to the parallel of Mars in Mundo. This direction promotes to advance the native's professional character; Mars being the significator of his profession, exalted by a parallel from the Sun. Tranquillity and success accompany this direction, and under its influence the native will have a son go out to sea. Those in subordinate stations to the native will afford him satisfaction, and his servants and domestics will be found orderly and faithful. All things now go smoothly on, and his own wishes and desires are in almost every shape completely gratified.

♂ 8 & . Under this direction the native suffers some uneasiness relative to his son's voyage. He will likewise experience some loss by a speculative adventure, which never can succeed under this aspect. An unpleasant disagreement appears very likely to happen in his family; and whatever friendship or connexion he forms under this configuration will prove faithless and vexatious.

☾ Δ ♄ M. This configuration gives solidity and stability to the mind, consolidates the ideas, and influences an unusual seriousness of imagination, which, considering the phlegmatic temperature of the native, will most likely afflict him with lowness of spirits, nervous afflictions, and habitual melancholy. Under this direction, however, the native's mind will be engaged in a desire of purchasing some house or land, which will occupy most of the time this direction continues in force; and, whatever purchase he makes under it, will be advantageous and satisfactory to himself and his family.

☉ 8 & . The Sun to the opposition of Mars, by converse motion. This is a malevolent direction, and imports no good to the native, thro' the means of some subordinate person, servant, or domestic, but which the native will detect and defeat. He will suffer a few weeks' illness, under a slow nervous fever, which goes off with the termination of this discordant aspect, and is succeeded by an indifferently good state of health, and celerity of spirits; which is demonstrated by the direction arising from the parallel of Mercury and Jupiter, which comes up immediately upon it, abating the evil, and removing the intemperate quality, by milder rays.

♂ 6 & . This configuration is extensively good, and gives the native prosperity and success in all things which relate either to the ninth, fifth, or eighth, houses. Under this direction he takes a pleasant and profitable

profitable journey, as the satisfaction of seeing all his desires prosper, and has peace, harmony, and content, in his own family, and good fellowship with his associates and neighbours.

☉ Δ ♃. This is a very excellent and prosperous direction, influencing a variety of favourable occurrences to the native, both in the line of his profession and in the general approbation and regard of his superiors and friends. The trine aspect of the two luminaries, in eminent places of the horoscope, is in all cases to be regarded as a symbol of great good, and of an advantageous and honourable intercourse, according to the birth and station of the native, with some high and elevated persons of rank and fortune. Had the native not been previously appointed to the station he now filled, he would, under this direction, in all human probability, have obtained some similar preferment, from the similarity of the aspects; but, as it was, the good effect of this direction was sensibly wrought upon him, since it introduced him to several noble personages, who at this time placed their sons under his care and tuition, for the purposes of obtaining a nautical education.

♃ 8 Asc. Jupiter to an opposition of the ascendant. This direction impairs the native's health, alters the state of his blood, and induces a bilious complaint in the bowels. He will most likely suffer by some disputation or disagreement with an acquaintance, and perhaps experience a very unpleasant embarrassment on the occasion, with loss of substance.

♃ Δ ⊕ M. The Moon to the trine of the Part of Fortune in mundo. This configuration always forebodes increase of fortune, successful enterprise, benefit in speculation, and prosperity in business. Under this direction the native experienced a great share of estimation from his superiors, and felt the emoluments arising from it.

♃ P. ♀ M. This direction imports death to some female in the native's family; and, as Venus is constituted lady of the seventh house, with close affinity to the native in his radical figure, it is most probable he will lose his wife; it is apparent, however, that this configuration will produce him much anxiety and perturbation of mind, with depression of spirits and deep melancholy.—Upon enquiry, I found that Mrs. Witchell really died under this direction.

♃ Smq. ♃ M.—☉ M. P. ♃. The Moon to the semiquartile of Jupiter in Mundo; and the Sun to the mundane parallel of the Moon.
No. 39. 9 F These

These are both propitious directions, and preface a continuance of much good to the native. He will prosper in all undertakings in the way of his profession, will receive fresh marks of the approbation and attention of his friends, and will rise in the estimation of some high and noble patron; whereby his spirits will be exhilarated and his melancholy removed. These pleasing circumstances alternately occurred during the time these directions contributed their influence, which lasted in a more or less powerful degree, from the beginning of November, 1778, to the month of September, 1779, when their effects totally subsided.

Afc. * ♄. This direction is armed with the most serious affliction to the native of any thing that hath yet gone before it. It is the harbinger of some sudden disease that threatens life. And, if we consider the radical import of this aspect, taken collectively with the irradiations of the other planets, and their respective positions and particular places in the figure, as they stand influenced and impregnated with the ambient quality of the signs, we can have no reason to hesitate in our judgment, that this affliction will fall as it were instantaneously, and that it will come by some defect in the animal circulation, or in the functions of the brain, whereby sensation will be destroyed, memory obliterated, or bodily motion withheld; but the most probable effect of the three arises from the superior dignity of Saturn, who governs this aspect; and, as he rules the retentive faculty of man, it becomes pretty evident that this disorder should be a fit of the palsy, falling upon the brain, whereby the native should suffer a privation of sense and motion, particularly destructive to the ideas of the mind, and to the force of memory. Under this direction Mr. Witchell really had the misfortune to fall down in an apoplectic fit, which held him for some time in a state of perfect insensibility, deprived of sight and motion, and of every visible appearance of life. When circulation was restored, and pulsation returned, the native became sensible to pain, and re-possest all the functions of the body; but his memory continued for some time wholly arrested, and was ever after greatly impaired: his whole frame felt the shock, and his constitution was visibly struggling with it, during the full time of this direction. Our recovery, indeed, from all complaints influenced by Saturn is usually slow; but particularly so, when they are occasioned almost entirely by his own malignant influence, unabated by milder rays.

♂ Δ ♀ M. This direction is of a more grateful quality, giving the native cheerfulness, and removing in some measure his habitual melancholy. This direction naturally inclines the fancy to women, and incites amorous desires; and I have no doubt but the native, even under an impaired constitution, and a confirmed nervous habit, was more than ordinarily awakened to these desires during the operation of this aspect. It was, nevertheless, too indelicate a question for me to put, however my curiosity might have been excited by the visible designation of the planets, or however anxious I might have been to justify the directions of a nativity which were intended for public scrutiny.

♂ Δ ♂ M. This direction participates extremely of the quality of the foregoing, and they operate in many instances with a joint influence, being both from aspects made in the world, and coming up nearly together. The native hath certainly strong predilections in favour of some particular female; and, if his constitution was not somewhat impaired, and his mind pretty much engrossed by other concerns, I have no kind of doubt but he would have married again while this direction operated; but, though it gives a radical import of such an event, yet when we come to consider it maturely with the quality of other planets, whose horoscopical places at the birth give them a concern in the completion of such an event, we shall find some few arguments wanting to give it a complete turn in favour of a second matrimonial engagement. But that the native had strong prepossessions that way, I have not the least doubt, and with a lady who perhaps is now living, and might confirm the truth of my remark.

Asc. Δ ♂. This direction is naturally good, inclining the native to fortitude and perseverance, and gives animation to the spirits, and vigour to the mind. He will, however, be somewhat absolute and arbitrary under it, particularly in his own family, and with his more immediate domestics and dependents. With respect to bodily infirmity, he will feel an affliction of choler, and a feverish tendency, induced by the quality of Mars, who has borne rule in the three last directions; and, by thus encreasing the energy of his influence upon the spirits, will leave them subject to a slow nervous fever, destructive to the radical moisture of nature, and to the free circulation of the blood and juices.

☉ Q. ♀ M. This direction is the forerunner of a worse. It is not a configuration that destroys life; but it is one that unhinges the nervous system, and reduces the native to a painful state of hypochondriacal melancholy.

melancholy. It is a remarkable circumstance, that Saturn and the Sun should form the last aspect in this nativity, which precedes that of death; and that of the Sun, being *anareta*, no sooner separates from Saturn, the most malevolent planet, than he applies to and receives the Part of Fortune, which is *hyleg*. Neither is it less curious to remark the gradual fatality which is here brought on and announced to the native. Mars, the lesser infortune, occupies the chief influence of the three directions which operate prior to this; and he no sooner retires, than he is succeeded by the greater infortune, Saturn, who gives place to the Sun, the *anareta*. And thus, operating by a gradual yet sensible influence, from a less to a superior state of infirmity, brings on that inevitable and final destiny, which gives every good and virtuous individual "a place amongst the gods."

☉ 2 ☉. In this direction, therefore, we see the two principal significators of life and death, which were constituted in the radical figure of birth, form that fatal configuration, which, in all countries, and in all nativities, is uniformly the same. The one, at the moment we enter into this world, is constituted *hyleg*, that is, giver or protector of life, because we were formed and nourished in the womb under the influence and temperature of that particular planet, and because it guards us in every peril of our earthly pilgrimage. The other is in the same early period constituted *anareta*, or destroyer of life, because it is tempered by its horoscopical position, with qualities diametrically opposite to the *hyleg*; and because, whenever it can form an evil configuration with the *hyleg*, it will deprive it of all its power and efficacy, and overcome its preserving faculty, by a superabundant energy of opposing matter, which nothing less than a supernatural cause can either alter or prevent. And therefore, when that certain cause, that vegetative faculty, which supports nature and sustains life, is thus overwhelmed by a redundancy or superiority of matter or influence, incompatible with, and contrary to, itself, its existence becomes annihilated, and the native dies. Thus it is in the present case. The Sun, in this nativity, being constituted of a direct opposite quality to the Part of Fortune, will, whenever they form an opposition or quartile aspect, absorb its power, and destroy its influence; in which case, whatever be the thing that was nourished or brought into being under it, it will be destroyed likewise.

If we regard, with a critical eye, the present figure of birth, we shall find every proof of those opposing qualities in these two significators,

tors, that constitute the *byleg* and *anareta* ; but the number of days, weeks, months, or years, which these two significators will occupy before they meet or form this discordant aspect, can only be known by equating the arch of direction which brings them into contact. This I have done in p. 685, where it appears, that these two significators were fifty-six years and ten months in coming to this position in the heavens, from their respective places or positions at the time of the native's birth ; and it is a fact too well established to admit either doubt or refutation, that the native died with a stroke of the palsy, which this aspect describes, on the 29th of January, 1735, at which time he was exactly fifty-six years and ten months old !

Thus it is apparent, that, however unaccountable or undefinable these planetary irradiations might appear, they certainly are what the Supreme Author of all things originally intended them to be, the natural and efficient causes of those strange and complicated mixtures and affections in men, which have confounded the speculations of the wisest philosophers. And I am persuaded that no man, unless it be those who are wilfully obstinate, can hesitate in forming his opinion of the truth of these premises ; particularly after observing that no remarkable incident of this native's life ever happened, but under the uniform influence, and as it were by the consent, of one or other of these directions, the defining of which constitutes the only true and rational mode of predicting by, or of calculating, nativities.

But, before I dismiss this subject, and in order to render every part of the science as plain as possible, it will be proper, in this place, to explain what is meant by Revolutions and Transits. A revolution is a returning or revolving back of any one of the celestial bodies to the same place or point in the heavens from whence it first receded ; for so the word radically imports. But, in our application of it to explain or illustrate any particular circumstance in a nativity, it usually refers only to the return of the Sun to his radical place in the zodiac, that is, to the same degree and minute of the sign wherein he was posited in the hour of birth. For the truth is, that revolutions and transits more properly appertain to the fate of empires than to the circumstances of a nativity. It has, however, been found, by established observation and long practice, that the revolutions, not only of the Sun, but of all the other principal significators in a nativity, to their radical places in the horoscope, excite a very powerful additional influence in the aspects and directions then operating, whether of a good or evil nature ; but

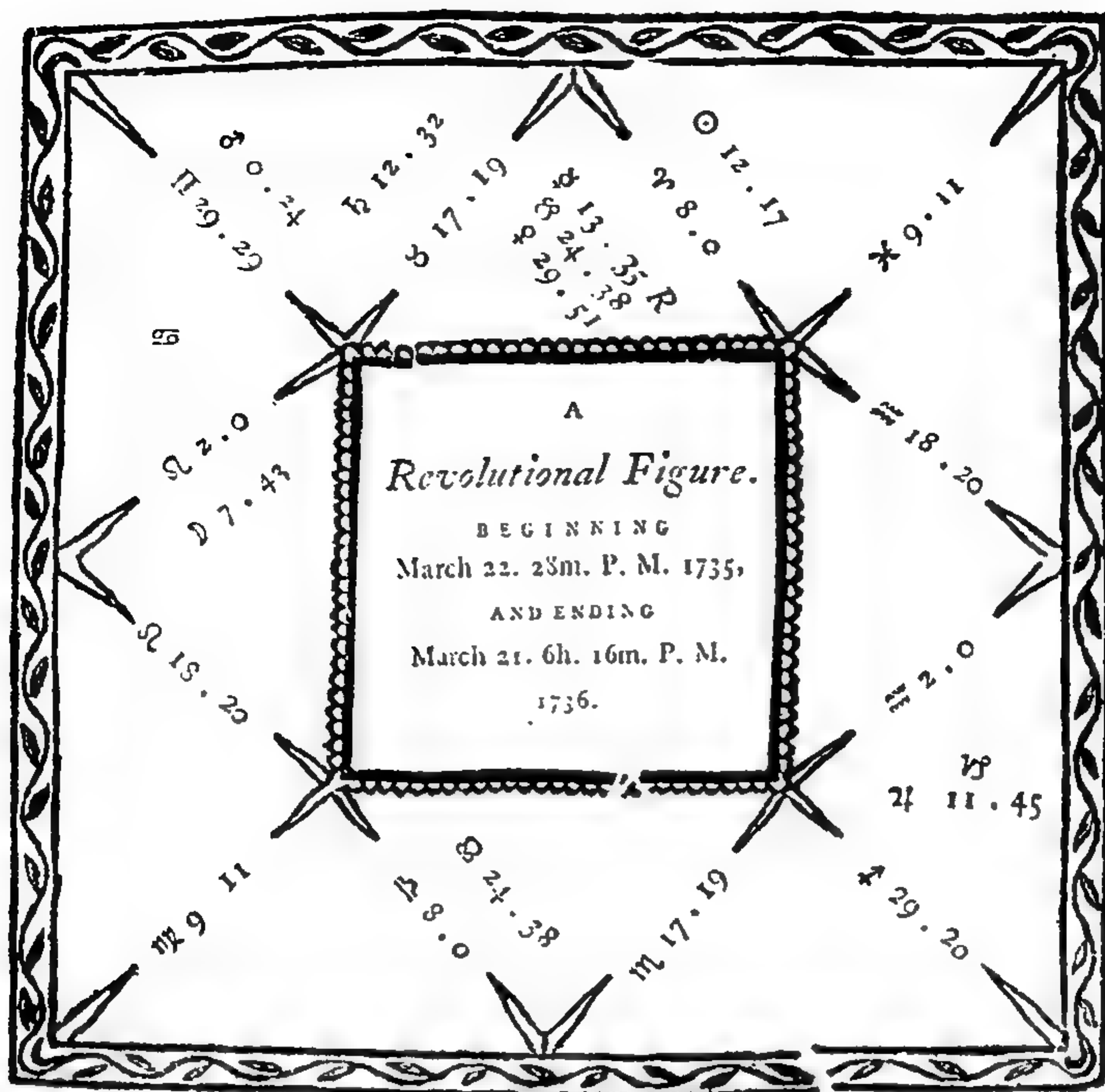
more particularly when the planet, so falling into its radical point, participates strongly of the same quality and temperature as the configuration or direction then in force. And hence it is usual for every judicious proficient in this art, when he is calculating and bringing up the directions of a nativity, to erect revolutional figures through the whole period of the native's life, in order to obtain the most satisfactory information in the probable or possible means, whereby any important direction, whether good or bad, might be increased or diminished in its natural quality and import, by the falling in of the revolution of any other significator, or of any particular planet transiting the place, under the influence of which the customary effect of the direction may be varied.

The usual way of erecting a revolutional figure is by adding five hours and forty-eight minutes to the exact time of the native's birth for every year's revolution; and, when the aggregate exceeds twenty-four hours, the twenty-four are to be cast away. For example, I would set a revolutional figure of Mr. Witchell's birth. Now the time of the day on which he was born was seven hours fifty-two minutes in the afternoon. The figure of birth, it must be observed, stands for the first year; consequently the first revolutional figure to be set for the native exhibits the positions of the luminaries and planets for the second year of his age; and the seventh also answers from the seventh to the eighth; and therefore, if we add five hours forty-eight minutes for every year, casting away the aggregate of twenty-four hours as often as they occur, we shall uniformly obtain the precise situations and positions of the planets for the year required.

				<i>h.</i>	<i>m.</i>
Thus, seven times five hours forty-eight minutes is				40	36
From which subtract	—	—		24	0
And there remains		—	—	16	36
To which add the hours from noon on the day of the native's birth, viz.	—	—	—	7	52
And the sum will be		—	—	24	28

From this sum the twenty-four hours are again to be cast away, and the Table of Houses is to be entered with twenty-eight minutes, under the title of *Time from Noon*, in the same manner as before directed for erecting the horoscope; and the heavenly bodies will be found to display themselves in the following manner:

Having



Having delineated the figure, we are to examine how it agrees with the radix, or original figure, of birth, and whether it be in sextile, trine, or opposition, to it ; and also what planets make their return to their own radical places, or to the radical places of others ; and also whether the luminaries be well beheld by the benefics, or afflicted by the rays of noxious planets, or by the sixth, eighth, or twelfth, houses of the radical figure of birth ; or whether Saturn or Mars afflict the places of the Sun, Moon, or ascendant of the radix, or whether there occur any eclipse either upon or near the radical places of the three Hylegiacals ; for, according as these circumstances are found, so will the affairs of the native be either injured or advantaged, and his health either impaired or established, as the case shall happen to be. For, if unbenign occurrences in the revolution fall in with qualities and rays of the same discordant nature in the radix, evil and affliction will be predicted, in proportion to the strength and qualities of the signifi-
tors ;

tors ; and, on the contrary, if grateful and benign influences thus concur, and mutually aid and unite in benevolent temperatures, then great and lasting good, according to the different natures of the planetary causes and effects, will undoubtedly take place. But, to make this somewhat more familiar to the reader's understanding, I shall give a few general rules, whereby judgement may be determined in other cases.

Whenever the hyleg, or giver of life, whether it be the Sun, Moon, Part of Fortune, or Ascendant, in the radix or genethliacal figure of birth, is found to behold its place in the revolutionary figure, by forming a sextile or trine aspect with each other, it is considered a visible argument that the native shall, during that year, enjoy health of body, and that his affairs will in a general way go well ; but, if this aspect be made by a quartile or opposition, the contrary effects are denoted. So if the Moon, in both the radix and revolutionary figure, be free from the malignant rays of the infortunes, and not combust, it is likewise an argument of an healthful and prosperous year, more especially if she be configured with benefic stars. But, if the Moon be combust, or afflicted with the malefic rays of Saturn or Mars, it will prove an unlucky and sickly year.

If, in the revolutionary figure, an eclipse or comet should fall upon the ascendant, it threatens a year of great trouble and anxiety to the native. But, if the eclipse in the revolutionary figure, whether of the Sun or Moon, should fall exactly in the same degree as the hyleg, or giver of life, in the radical figure of birth, and any violent configuration of the malefics should begin to operate at the same time, it will, in all probability, affect the native's life, by encreasing the malignancy of the aspect, and heightening the violence of the means, whatever it may be, by which life is threatened. So, if an eclipse of the Sun should in like manner fall in the same degree and minute of the Dragon's Head, it also endangers life ; but, if it only falls near the same point, it then threatens danger or disease in that year, but not such as should touch life.

If in the revolution the Part of Fortune falls in the same degree as in the radix, it is implicative of the same effects, and will tend to facilitate them in a more eminent and obvious manner ; and, if it happens that this position falls in a good aspect with its dispositor, it will greatly tend to encrease the native's wealth or substance during that year ; but, if the aspect be made with malefic rays, and the horoscopical position
of

of the Part of Fortune in abject places, it portends a direct contrary effect. It is, however, always to be remembered, that any planet strong and essentially dignified in a revolution, and at the same time in good aspect with the Part of Fortune, or with the lord of the second house, or with Jupiter, Venus, or the Moon in reception, uniformly presages good fortune to the native during that year.

If the Sun be in the first house, mid-heaven, or eleventh house of the revolutionary figure, in good aspect with Jupiter or Venus in the radix, and free from the unbenign radiations of the infortunes, it denotes an increase of honour and reputation, of respect and esteem, during that year, although no direction whatever should be then operating to increase its influence. So Jupiter, well configured in the ascendant, or in Pisces, Cancer, or Sagittarius, indicates the same, according to the quality and occupation of the native; but he denotes honour and esteem in a much more eminent degree when posited in the medium cœli. Or, if the revolutionary ascendant be the place of the Dragon's Head in the radix, and irradiated by Jupiter, it likewise promotes honour, and encreases worldly esteem; and so, *vice versa*, if the ascendant of the radical figure of birth be the place of the Dragon's Head in the revolution, it denotes the same.

If in the revolutionary figure the luminaries are conjoined in the seventh or fourth house, it presages death either to the father or mother of the native; more especially if their places in the radical figure be likewise infortunated by malignant rays. If Saturn be found to afflict the Sun by quartile or opposition, or by conjunction in one of the angular houses, it is an argument that the father shall make his exit, but, if the Moon be thus afflicted by Saturn, with relative positions in the two horoscopes, it presages death to the mother; for in these cases the Sun is natural significator of the father, and the Moon of the mother; and, when thus configured in a revolutionary figure, they forebode death to happen within the year.

Whenever the lord of the fifth is posited in the ascendant, or the lord of the ascendant in the fifth house of the revolutionary figure, and in a fruitful sign, with due affinity to the radix, it is a most propitious configuration to give the native issue, if married; but, if single, it will be a very dangerous year to the native, by intercourses with the other sex.—If the native be a male, he will most probably have an illegitimate offspring to provide for; but, if a female and a virgin, she will rarely:

escape ruin, and will probably become the unprotected mother of an unfortunate orphan. This aspect is therefore to be regarded with the utmost attention, and resisted with becoming fortitude and resolution by both sexes.

If the lord of the fifth be posited in the twelfth, (it being the eighth from the fifth,) in similar aspect to the radix, it threatens death to the native's children. So likewise if Saturn or Mars, or the Dragon's Tail, be posited in the fifth house of the revolutionary figure, in evil aspect with the radix, it forebodes death to the native's issue in the course of that year. Or if Saturn or Mars afflict the fifth house or its lord by conjunction, quartile, or opposition, it implies the same.

Whenever the lord of the ascendant, in the revolutionary figure, is posited in the seventh house, and comes by direction to the radical place of Venus in the figure of birth; or if the lord of the seventh, in the revolution, is brought by direction to the ascendant of the radix, they afford ample proofs that the native will marry in the course of that year. Or if Jupiter, Venus, the Moon, or Part of Fortune, be thus irradiated, it denotes a propensity in the native to contract matrimony, although circumstances might occur to prevent it.

Whenever Saturn is posited in the seventh house of the radix, and found also in the seventh house of the revolution, it threatens death to the native's wife before the expiration of that year. Mars and the Dragon's Tail thus configured, imports little less. Mercury, if afflicted by the malevolents, and in the seventh house, declares much danger to the native; but, if configured with Venus, under the same malignant rays, it threatens mischief both to the native and his wife.

Mars, Mercury, and Venus, being the proper significators of profession, if they are afflicted in the revolutionary figure, with direct affinity to the same places in the radix, presage great sorrow and embarrassment to the native in his line of business during that year. But a comet or eclipse falling upon the mid-heaven of the radix and revolution, irradiated by the good aspects of either the Sun or Mars, will produce a very prosperous year to the native, and will bring him honour and preferment.

Thus far we have considered the general tendency and import of the several significators in a revolutionary figure, as they are connected with

or behold the radical figure of birth. There is now another effect to be considered, which the erratic stars produce by their respective motions round the Sun, which are called transits, that is, a returning to or re-assuming either their own place, or the place of any other planet in the revolutionary figure, so as exactly to correspond with their radical places in the figure of birth. These transits, when of a remarkable or eminent nature, always produce an effect or influence of their own, peculiar to the nature and quality of that particular star by which such transits are made ; but whenever they fall in places of the figure, or in configuration with other planets, where a direction is coming up, or any distinct aspect then operating, they never fail to co-operate with, and give additional force and efficacy to, such aspects or directions, whether good or evil, as the case and quality of the several significators shall happen to be. And for this reason it is highly proper, whenever the speculum of a nativity is projected, and the various directions brought up, to examine what transits are likely to occur in the course of the native's life that may possibly vary the effect of any particular direction ; and, consequently, of the incidents or events predicted thereby, as likely to happen to the native. For this reason I have annexed a few general observations, calculated to direct the reader's judgment under this speculation.

When Saturn returns to or transits his own radical place in the revolutionary figure, well dignified, he indicates prosperity to the native ; and, if he be lord of the ascendant either in the radical or revolutionary horoscope, he will render that prosperity still more excellent and conspicuous. If Saturn transits the radical place of Jupiter, propitiously configured, it denotes increase of fortune by the favour of eminent men ; if he transits the place of Mars, it gives advantages from friends or brethren ; and, if these transits are made with evil configurations, the contrary evils will be produced.

When Saturn transits the place of the Sun, it is implicative of some strong or violent contention with magistrates, or with men in power, in the course of that year ; and, if accompanied with aspects of disease, will produce bodily sickness and infirmity. If Saturn transits the place of Venus, it demonstrates infelicity from a female cause ; if the place of Mercury, it implies advantages from study ; if the place of the Moon, it declares affliction both of the body and mind ; if the place of the Dragon's Head, it tends to promote the native's good fortune ; but, if Saturn transits the place of the Dragon's Tail, it has a most dangerous

dangerous and malignant tendency. If the place of the Part of Fortune be transited by Saturn, with benevolent rays, it denotes encrease of substance and estate ; but, if by evil rays, the contrary effect will be produced.

Precisely the same is the result of all the other significators transiting their own or other planets' places in the radical or revolutionary horoscopes ; with only this invariable distinction, that the effects vary according to the nature, quality, and temperature, of each respective planet, and to the radiations and aspects formed with them, or to the directions then operating ; for revolutions or transits of a benevolent and friendly nature, falling in with good directions then operating, will visibly increase their propitious quality, and greatly benefit the native ; whilst, on the other hand, revolutions or transits of an evil designation, falling in with noxious and malignant directions, will encrease the evil, or destroy life. But good revolutions or transits falling in with bad directions mollify their malignancy ; whilst evil ones, opposed to good directions, lessen the good fortune then operating, and deprive the native of the full completion of those golden advantages which perhaps appeared almost within his grasp.

To discover the precise time when any event or direction shall take place in a revolutionary figure, we direct the five hylegiacals, as in the radix ; always observing, as it is for the year ensuing, to direct the temporary progress of the zodiac for five hours forty-eight minutes. For instance, suppose the cusp of the medium cœli hath one degree of Gemini, that point is to be directed to every aspect that falls between that one degree and twenty-four degrees of Leo ; and also, if the ascendant hath at the same time eight degrees of Virgo, it must be directed to all promittors between that point and nine degrees of Scorpio, because that point will be upon the cusp of the ascendant for the ensuing year, and Leo will occupy the mid-heaven. In like manner the Sun, Moon, and Part of Fortune, must be directed unto their promittors, always remembering, that the distance of a planet from the ascendant is found by oblique ascension, and from the mid-heaven by right ascension. But, when one planet is directed to another for the purpose of ascertaining transits, their distances from each other are found, by oblique ascension or descension, under the pole of that planet which is taken for significator ; and the distance which is thus given by degrees must be converted into time, by entering with the given denomination of degrees into the following Table :

A RE-

A R E V O L U T I O N A L T A B L E.

A Table for Degrees.

A Table for Minutes.

Deg.	Days.	h. m.	m.	Days.	h. m.	m.	Days.	h. m.
1	4	4 56	1	0	1 41	31	2	4 9
2	8	9 52	2	0	3 22	32	2	5 50
3	12	14 48	3	0	5 3	33	2	7 31
4	16	19 44	4	0	6 44	34	2	9 12
5	21	0 40	5	0	8 25	35	2	10 52
6	25	5 36	6	0	10 6	36	2	12 33
7	29	10 32	7	0	11 47	37	2	14 14
8	33	15 28	8	0	13 28	38	2	15 55
9	37	20 24	9	0	15 9	39	2	17 36
10	42	1 20	10	0	16 50	40	2	19 17
11	46	6 16	11	0	18 31	41	2	20 58
12	50	11 12	12	0	20 11	42	2	22 39
13	54	16 8	13	0	21 52	43	3	0 20
14	58	21 4	14	0	23 33	44	3	2 1
15	63	2 0	15	1	1 14	45	3	3 42
16	67	6 56	16	1	2 55	46	3	5 23
17	71	11 52	17	1	4 36	47	3	7 4
18	75	16 48	18	1	6 17	48	3	8 45
19	79	21 44	19	1	7 58	49	3	10 26
20	84	2 40	20	1	9 39	50	3	12 7
22	92	12 32	21	1	11 20	51	3	13 48
24	100	22 24	22	1	13 1	52	3	15 29
26	109	8 16	23	1	14 42	53	3	17 10
28	117	18 8	24	1	16 23	54	3	18 51
30	126	4 0	25	1	18 4	55	3	20 32
40	168	5 20	26	1	19 45	56	3	22 13
50	210	6 40	27	1	21 26	57	3	23 54
60	252	8 0	28	1	23 7	58	4	1 35
70	294	9 20	29	2	0 48	59	4	3 16
80	336	10 40	30	2	2 28	60	4	4 56
87	365	21 12						

A T A B L E,

Collecting all the Days of the Year, and serving successively to find the Month and Day of any Accident.

Days	January	February	March	April	May	June	July	August	September	October	November	December
1	1	32	60	91	121	152	182	213	244	274	305	335
2	2	33	61	92	122	153	183	214	245	275	306	336
3	3	34	62	93	123	154	184	215	246	276	307	337
4	4	35	63	94	124	155	185	216	247	277	308	338
5	5	36	64	95	125	156	186	217	248	278	309	339
6	6	37	65	96	126	157	187	218	249	279	310	340
7	7	38	66	97	127	158	188	219	250	280	311	341
8	8	39	67	98	128	159	189	220	251	281	312	342
9	9	40	68	99	129	160	190	221	252	282	313	343
10	10	41	69	100	130	161	191	222	253	283	314	344
11	11	42	70	101	131	162	192	223	254	284	315	345
12	12	43	71	102	132	163	193	224	255	285	316	346
13	13	44	72	103	133	164	194	225	256	286	317	347
14	14	45	73	104	134	165	195	226	257	287	318	348
15	15	46	74	105	135	166	196	227	258	288	319	349
16	16	47	75	106	136	167	197	228	259	289	320	350
17	17	48	76	107	137	168	198	229	260	290	321	351
18	18	49	77	108	138	169	199	230	261	291	322	352
19	19	50	78	109	139	170	200	231	262	292	323	353
20	20	51	79	110	140	171	201	232	263	293	324	354
21	21	52	80	111	141	172	202	233	264	294	325	355
22	22	53	81	112	142	173	203	234	265	295	326	356
23	23	54	82	113	143	174	204	235	266	296	327	357
24	24	55	83	114	144	175	205	236	267	297	328	358
25	25	56	84	115	145	176	206	237	268	298	329	359
26	26	57	85	116	146	177	207	238	269	299	330	360
27	27	58	86	117	147	178	208	239	270	300	331	361
28	28	59	87	118	148	179	209	240	271	301	332	362
29	29		88	119	149	180	210	241	272	302	333	363
30	30		89	120	150	181	211	242	273	303	334	364
31	31		90		151		212	243		304		365

Whether the directions be radical or revolutionary, the table in the foregoing page will serve equally for both, by changing the names of the months to any other, according to the given day of the month of any nativity, making the day of birth the first day of the year; and always remembering, that when it happens to be leap-year, one day must be added to February, and there will then be three hundred and sixty-six days in that year.

I have now completed every remark and every instruction that is or can be necessary for the perfect calculation of nativities; and I am bold to say, that whoever will bestow sufficient time and application to the rules I have laid down, and that will attend properly to the collateral circumstances, will find no difficulty in obtaining a foreknowledge of all material events relating to himself, or to any other person, whose real nativity is laid before him. I have, in the management of the foregoing nativity of Mr. Witchell, been particularly plain and copious, that no understanding might go uninformed, as well of the simplicity and verity of the art, as of its moral tendency to promote the good of mankind, and the certainty with which human events might be fought out through its means.

Every thing I have stated with respect to Mr. Witchell's nativity is incontrovertible fact. That gentleman, when in perfect health, and in full vigour of mind, resorted to me for no other purpose than to hold disputations upon the rudiments of the science, and to inform himself as to its hypothesis and probability in the scale of reason and science. The more he enquired, the more convinced he was of planetary influence and effect. He proceeded from theory to practice. He amused himself with a variety of disquisitions upon the different branches of the art, and had the pleasure to find, that, in all cases where truth and perspicuity were the basis of his enquiries, there were no instances of doubt or deception in the predictions resulting from them. Well grounded in all the common departments of astronomy, he obtained an extensive theoretical knowledge of this part of it with the greater facility; and, to reduce it to regular practice, he began with calculating his own nativity. In comparing the aspects with the particular incidents of his life, he was soon convinced they were inseparable from each other; and hence it was that he committed the revision and completion of it to my care, with a firm and manly solicitation to have the anaretical direction brought up and ascertained, as well as those of smaller magnitude and importance. This was a task I performed with the
greater

greater satisfaction, because it was to undergo the scrutiny of the most perfect mathematician of age; and because his conviction and approbation of it would stamp new reputation upon a science, which, having few or no real advocates, has been long borne down by popular prejudice and obstinate declamation. Having performed every part of the calculation with an exactitude that highly pleased him, he made use of it as a friendly monitor of the good and evil that awaited the residue of his days; and, when he approached towards the stated time of his dissolution, he would mention it without the smallest emotion, and considered the knowledge of it as one of the greatest blessings of his life, which not only drew his attention to his Maker, and fixed his thoughts upon celestial desires, but raised his mind above the contemplation of earthly enjoyments, and gave serenity and calmness to his conversation and deportment. It was on one of these occasions, that he requested me to print his nativity in my work, which I began to publish some little time before; observing that the evidence of so recent and respectable a proof of astrological prediction might tend to bring mankind to reason, and admonish them no longer to abandon this sublime and interesting branch of knowledge.

And now, what need can there be of further argument in support of so self-evident a doctrine? or what advantage could it possibly be to me, or to any disinterested man, to preach up the advantages of a science which hath no existence in reason or in truth? The facts here laid down are unquestionable; and such, I think, as no reasonable man will attempt to refute. If farther proofs are required, I shall at all times be ready to furnish them, or to explain any matter or thing herein-before laid down that might be deemed unintelligible, or that is not thoroughly understood; at the same time that, if any obstinate unbeliever, or any other description of men, can offer a fair and candid argument in opposition to astral influence, I shall be ready to hear them with respect and attention. Wretched indeed should I be, if, after every precaution to guard myself against the encroachments of enthusiasm, I should fall a victim to its phrenzy, or be deemed a madman or a fool: at the same time let me not shut my eyes against demonstrable facts, merely because the bulk of mankind chuse to discountenance them, or determine to become wilfully blind. I have examined, and am convinced; and I trust I have sufficiently established the reality of this science; and have abundantly shewn that the ambient matter, collected by the rays of the celestial bodies, and communicated by a sympathy of action to all sublunary things, is the cause of all those
unde-

undescribable occurrences in human nature, which, for want of a more clear comprehension of the wonderful works of creation, are frequently attributed to causes, which call in question the benign attributes of the Deity, and disgrace the understanding of the meanest of his creatures upon earth.

It hath been contended by some, in opposition to that part of astrological doctrine which determines the bodily form and mental disposition of the native from the several significators in his own and in his parent's genethliacal figures, that this likeness or similitude in body and temper is stamped by the energy or idea of the parents in the act of copulation. Although I am willing to admit this observation in part, yet I contend that the primary cause, which furnishes that energy or motion in the parents, is derived from their respective significators in the heavens; and that they impress their particular quality in proportion as they happen to be in dignity and power at that precise time. If the significators of the mother are then superior in force and dignity, the mother's features and disposition will be most visible; if the father's geniture be the strongest, the father's temper and similitude will be most predominant in the offspring then begotten; but, if both their significators are equally strong, the child then equally participates in the likeness and disposition of both his parents. Let it nevertheless be remembered, that, however strong the significators of both or either of the parents might be, yet those proper to the foetus or conceptional matter invariably take the lead, and stamp that peculiar form and temperature upon the native, which in a great measure supplant the first impressions given by those of the parent, and form a person and mind essentially differing from both, though with some vestiges of hereditary similitude. And hence the reason why sons and daughters more or less depart from the stature, features, complexion, and temper, of their parents; and why no two human beings, in the whole compass of generation were ever yet formed precisely alike! If, therefore, the man lives, who can fairly and completely refute this argument, he shall have my thanks and my applause. And I will add further, in the emphatic words of an unrivalled author, that "My heart is already with
 "him. I am willing to be converted. I admire his morality, and
 "would gladly subscribe to the articles of his faith. Grateful, as I am,
 "to the good Being whose bounty has imparted to me this reasoning
 "intellect, I hold myself proportionably indebted to him, from whose
 "enlightened understanding another ray of knowledge communicates
 "to mine. But neither should I think the most exalted faculties of
 No. 40. 9 K "the

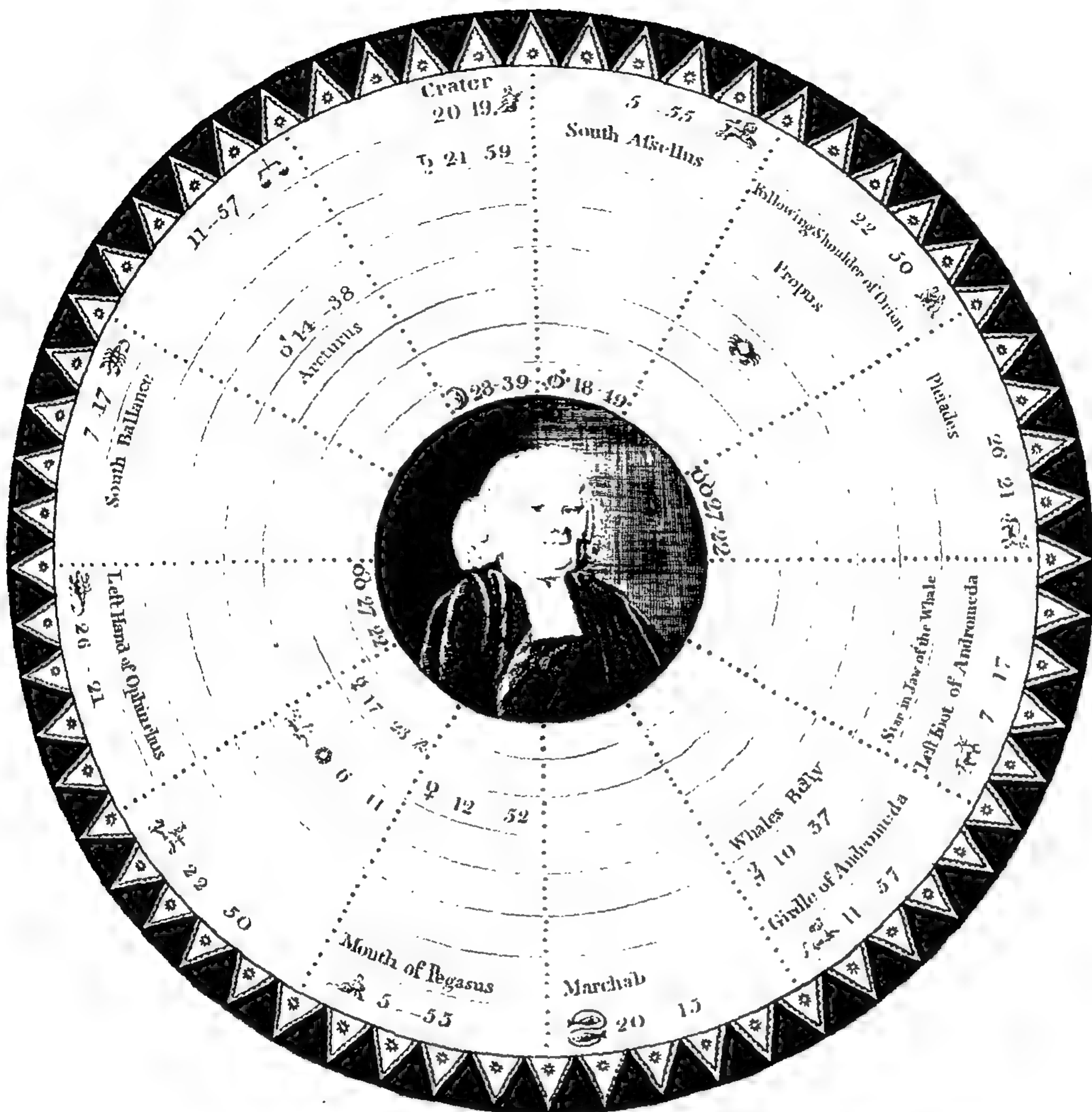
“ the human mind a gift worthy of the divinity, nor any assistance, in
 “ the improvement of them, a subject of gratitude to my fellow-creatures,
 “ if I were not satisfied, that really to inform the understanding corrects
 “ and enlarges the heart.”

OBSERVATIONS on the NATIVITY of the Rev. GEORGE WHITFIELD, M. A.

I shall now, agreeable to the plan I have before laid down, introduce, by way of example, a number of remarkable genitures, in order to shew that the aspects of the planets, and the influence of directions, are uniformly and invariably the same in all cases, and correctly distinguish those extraordinary actions in every native's life, for which he afterwards becomes celebrated and famous.

The well-known life and character of the Rev. Mr. Whitfield, and his remarkable prowess in the line he adopted, render him no unfit subject for our present purpose. He was born on the 16th of December, 1714, as in the annexed plate of his geniture. At a very early period of his life he lost his father, and was left unprovided for in the world. When he arrived at the age of ten years, his mother again contracted matrimony, which turned out every unhappy: this is demonstrated by the mid-heaven coming at this time to a contra-antiscion of the Moon; and, as both are significators of the mother, they presage much trouble and anxiety as well to her as to the native. At fourteen he was taken from school, and assisted his mother in the business of a public house; at which time the mid-heaven came to a quartile of the Sun, which always brings disgrace and trouble. His mother quitting the inn, it was taken by his brother; and, his sister-in-law and himself not agreeing, they frequently fell out, and he would sometimes not speak to her for three weeks together. This sullen austere temper is produced in the radix of his birth by the quartile of the Sun and Mars; and, to complete the obstinate perseverance of his mind, the Moon is in conjunction of Saturn, which invariably produces such a temperature.

In fifteen years and twelve days from his birth, the Moon came to the trine of Venus, who is the significatrix of joy and pleasure. It is a remarkably good direction, by falling in the eleventh house, which denotes friends; and, as Venus is in the third, it relates to kindred and
 short



Planets Latitude			Rev. ^d		Planets Daily Motion		
			GEORGE WHITEFIELD, M.A.				
			Born 16 th December				
			16 H 57 m. P.M.				
			1711.				
			Latitude 51-52				
			Died 29 th Sept. 18 H.P.M.				
			1770. at Wimbury near				
			Boston. in New England				
♂	2	10 North			♂	0	1
♂	1	11 South			♂	0	5
♂	1	56 North			♂	0	30
♂	0	0 0			♂	1	1
♂	1	0 North			♂	0	18
♂	2	44 North			♂	Re	
♂	1	31 South			♂	11	52

short journeys. Under this direction it was resolved to fit the native for the university; but he went on some visits of pleasure before he consigned himself to the discipline of a preparatory school. At the age of seventeen years and one hundred and eighty-eight days, the Moon came to a hostile aspect with Mars. This direction hath an evil signification, because these two planets are by nature inimical to each other, as we have already sufficiently shewn; and it would have had a still more malignant influence, had not Venus at the same time cast her trine aspect to Mars. Under this direction he contracted an intimate acquaintance with several debauched young gentlemen, who led him into a variety of scrapes, and into the wicked company of prostituted females.

At about eighteen years of age he was received into the university; for which there came up a most significant direction of the ascendant to the trine of Jupiter, which hath reference to preferment under the nobility, clergy, religious societies, and such-like. Under this direction he was chosen servitor to several gentlemen of the university, whereby he conducted his pecuniary affairs so well, that he did not stand his friends in twenty-four pounds in three years. At the period of eighteen years two hundred and fifty-six days, the Sun came to the trine of Saturn; under which direction the native abandons the established doctrines of the church, and takes up the religious tenets of Methodism, to the utter astonishment and concern of all his relations and friends. At nineteen years two hundred and forty-four days, the Sun again came to the trine of Saturn; under which direction the native more vigorously pursued his religious principles, and became intimately acquainted with the Rev. John Wesley, by whose friendly advice and exemplary conduct he used frequently to say, "he had been delivered from the snares of Satan."

At nineteen years one hundred and twenty-six days from the time of birth, the mid-heaven came to the opposition of Jupiter. At this time many infelicities arise by means of clerical men. The native's mind is tormented and oppressed, and he is loaded with calumny and contempt. He incurs the displeasure of the heads of his college; his relations also conspire against him, and his mind becomes a prey to perturbation and despair. This laid the foundation of a violent fit of sickness, which lasted him upwards of seven weeks, whilst this direction operated with its utmost force; his life was supposed to be in danger, and his enemies rejoiced in his affliction. At twenty years and two days, the Moon came to the sextile of Mercury, under which favourable direction

direction he was restored to health, and recovered his wonted resolution and spirits.

At twenty years and two hundred and eighty-six days from his birth, the mid-heaven came to the trine of Venus, which produced him the sincere regard of many persons, with health and content, and prosperity in worldly affairs. Under this direction the native journeyed to Gloucester, and soon afterwards to Bristol; in the course of which he experienced many offices of friendship from those whom he had considered his enemies. Lady Selwyn, of Gloucester, recommended him to the patronage of the Bishop, who immediately sent for him, and offered to ordain him whenever he desired; and at the same time presented him with five guineas. And the next direction coming up at twenty years three hundred and sixty days from the time of birth, namely, on the 12th of December, 1735, greatly increased the good fortune promised by the former; for, under the influence of this direction, Sir John Phillips agreed to allow him thirty pounds a year.

At twenty-one years and eighty-seven days, 14th March, 1736, the ascendant came to the sextile of Venus. While this direction was operating, it gave the native a pleasant and agreeable time, full of prosperity and content, with reputation and success in his vocation; so that in May following he was ordained. What renders this direction more remarkably propitious is, that it falls in a good part of the horoscope, and that Venus is no way afflicted. In August following he returned to London.

When he was twenty-one years three hundred and forty days old, *i. e.* on the 22d of November, 1736, the Moon came by direction to Spica Virginis, a fixed star of the first magnitude. Fixed stars of a benevolent quality, in such conjunctions, usually denote sudden honour and preferment, and frequently bring men into higher repute than any single erratic influence; but, when mixed with planets of their own nature and quality, they give durable reputation and prosperity, as was the case in the present instance. At twenty-two years and twenty-four days from the birth, namely, on the 10th of January, 1737, the Sun came to the trine of the Moon from the tenth house, the house of professional honour; and, as the Moon is significatrix of the mixed multitude, or common people, it declares that the native should experience an uncommon share of honour and respect from the middle class of people, which every one knows was really the case. This aspect likewise implies

implies some distant journey; and we find that Mr. Whitfield now first formed his determination of going to America. Under this direction the native acquired great popular applause, as he hath declared himself; and at this time he preached in the parish-churches. On the 30th of October following, the ascendant came to the sextile of Venus, which promises success; and, by reason that so many benevolent directions follow so closely after one another at this juncture, his success became more rapid and conspicuous. On the 10th of December the ascendant came to the sextile of Mars; and on the 28th of the same month the native embarked for Georgia. This direction brings him into the society of military men, with whom harmony and attachment is most amply denoted by the sextile aspect. It likewise gives the native suitable magnanimity, fortitude, and courage.

The next direction is of a very dangerous and evil import, namely, the medium cœli to the body of Mars, which, genethliacally considered, suddenly exposes a native to the mischance either of life or fortune; it stirs up the wrath of powerful men against him, and excites his mind to popular tumults and commotions. This was in an extraordinary manner exemplified in the person of Mr. Whitfield; for under this direction he returned to England, landed at Bristol, and behaved with great arrogance to the Chancellor of that diocese; and afterwards insulted and rebuked the Vice-Chancellor of Oxford, and contemned his authority, with that of all the other dignitaries of the church. He was now prohibited from performing divine service in any of the protestant churches; in consequence of which he commenced field-preacher, in the neighbourhood of Kingswood, near Bristol. In February, 1739, the ascendant came to the conjunction of Mercury, at which time he was seized with a violent fever, and continued very ill upwards of six weeks.

At twenty-four years and seventy-eight days from the native's birth, March 5, the mid-heaven came to the body of Mercury, ruler of the tenth house; so that, notwithstanding the opposition and censure he met with, yet he was remarkably successful, and received great encouragement from the populace, as this direction obviously denotes. Under its operation he preached openly in Islington church-yard, then at Moorfields, afterwards at Kennington Common, and at several other places in the open fields round London. The novelty of his doctrine and deportment excited public curiosity, and the populace flocked to hear him from all quarters. He collected large sums of money daily, in the form of a subscription for building the Orphan House in Georgia; for

which purpose the trustees had granted him five hundred acres of land for ever. This direction likewise inclines the native to travel, and under its influence he embarked for Georgia in August, but returned to England again in March, 1741.

From the thirty-second to the thirty-sixth year of the native's age, there happen four remarkably-good directions, viz. the Part of Fortune to the conjunction of the Moon, the Sun to the sextile of Jupiter, the Sun to the conjunction of Venus, and the Sun to the trine of Mars. Under these several directions he considerably encreased his substance, grew daily into higher repute amongst his disciples, and published several tracts that met with very great approbation. He likewise under this influence married the widow of an apothecary in Wales, with a small landed estate. On the 27th of June, 1751, the Sun came to the trine of Mars; under which direction he collected large sums of money, and completed his tabernacle in Moorfields.

At the age of forty-two years and sixty-eight days, March 4, 1757, the Ascendant came to the quartile of the Moon, an evil direction, prefiging much mischief. The native was now publicly molested and abused by the populace. He was driven from the chapel in Long Acre with indignant violence; and in several of these popular tumults he narrowly escaped with his life. He embarked for Ireland under the evil influence of this direction, where he in vain attempted to gain proselytes to his doctrine. The populace were in a short time irritated against him; and after several fruitless efforts to subdue the passions and spirits of his auditors, and after patiently enduring a copious share of insult and abuse, accompanied with some severe chastisement, he re-landed in England, and came back to pursue his fortune in London.

At the age of forty-two years two hundred and fifty-seven days, the mid-heaven came to the sextile of the Sun, which is an aspect denoting much good. Under this direction he found himself well received by the populace; he resumed his former places of public declamation, and went round the country, preaching in the open fields, or public streets, as best suited his purpose. His collections upon these occasions were generally pretty liberal, particularly in places where his doctrine and manner were novel, and he gained over many disciples. He returned to town, and under this benevolent direction he built his chapel in Tottenham-Court Road.

At forty-five years one hundred and eighteen days from the time of birth, viz. April 17, 1760, the Moon came to the quartile of Venus. This direction falls in the twelfth house, and is the forerunner of anguish and affliction. At this time Foote's comedy of the Minor made its appearance, which so stigmatized the native's character, that he never got the better of it. He devoted himself to the task of preaching it down, and persevered for a long while in this fruitless attempt; but the insult and satire of the populace was so great, that he was under the necessity of withdrawing himself from the performance of divine service even in his own chapels. At this time likewise many of his principal followers deserted him, particularly a distinguished lady, from whom he had received very great support. This direction is immediately followed up by the Part of Fortune to the opposition of Jupiter, a baneful aspect, which came up the 20th of May, 1760, and also declares loss of reputation and substance to the native. Under this direction several others of his most opulent disciples abandoned him, and the pecuniary emoluments of his chapels were greatly decreased.

In September, 1764, the Part of Fortune came by direction to the bodily aspect of Mars, which hath signification of many violent contentions between the native and his adherents about the loaves and fishes; with loss of property, and respect in consequence. The next aspect came up the 5th of December following, that is, in forty-nine years three hundred and fifty-three days from the time of birth, when the mid-heaven, which represents the native's honour and reputation, comes to the quartile of Venus in the twelfth house. This is a malignant direction, calculated to blast the native's general character, and to produce some sudden evil from a female quarter. These successive directions, being fraught with disappointments and insurmountable perplexities to the native, prepared his mind to seek an asylum in the more grateful climes of America.

At fifty years one hundred and eighteen days from the time of birth, the ascendant came to the conjunction of the Sun, and is then brought to a quartile aspect with Jupiter, in an equally-malignant radiation of the Moon. The union of these aspects is extremely singular, as is the manner in which the hyleg and anareta are here brought together, by the united force of three co-operating malevolent directions, all of which came up in September, 1770, and deprived this celebrated character of life, on the 18th day of that month, at Newbury, near Boston, in America.

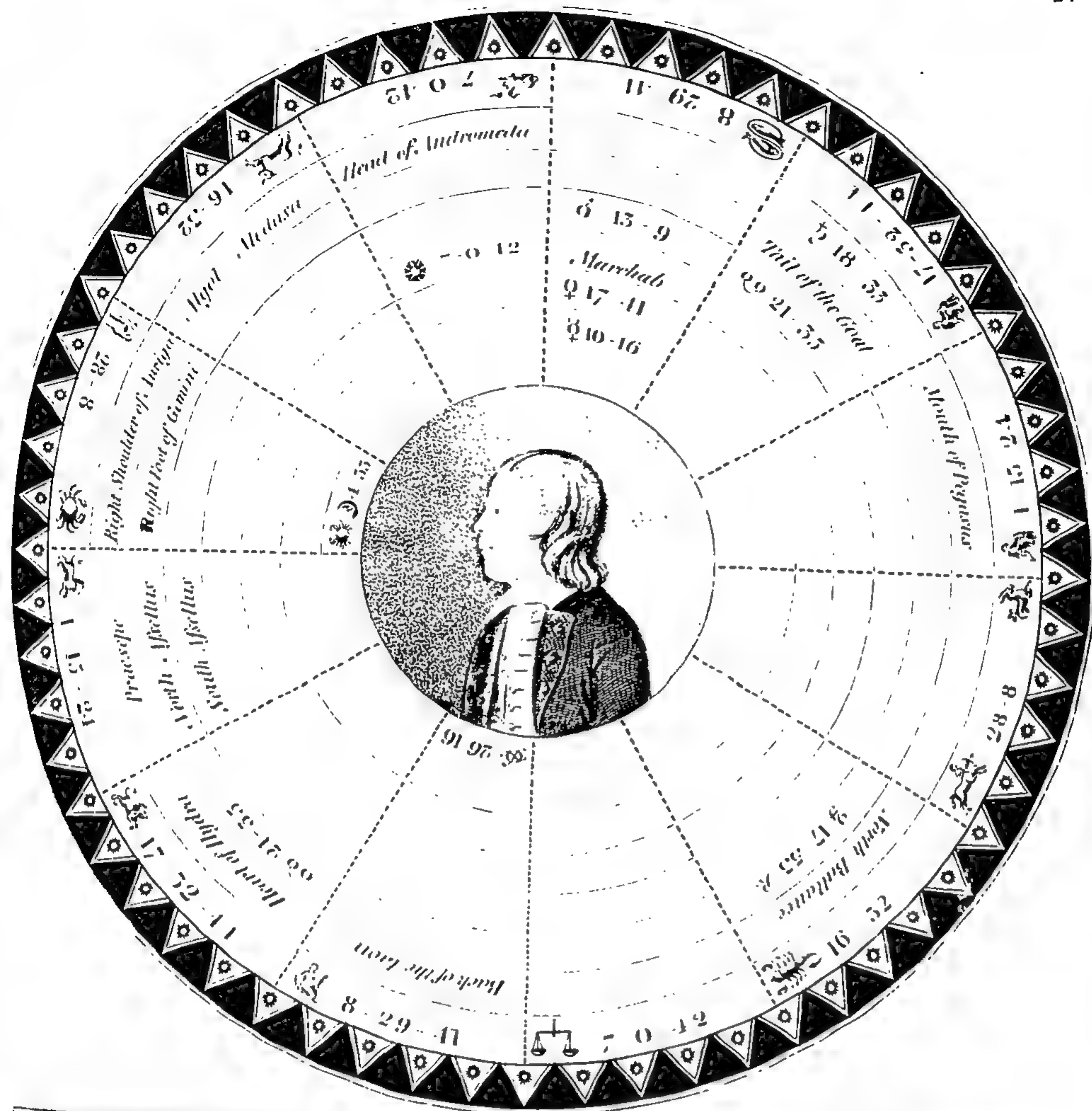
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As to the natural temper and disposition of Mr. Whitfield, it was none of the best, as might be collected from his own words: "I can truly confess," saith he, "that I was brutish from by mother's womb; and so brutish, as to hate instruction. I can date some early acts of uncleanness, with flagrant proofs of an impudent temper, a lying and filthy talking tongue, addicted to stealing, frequently taking money out of my mother's pocket before she got up in the morning; likewise spending money that I received in the house, it being a public house; joining others in roguish tricks, but was generally detected." This account agrees precisely with the temperature and bent of mind denoted by the several significators in his nativity; and is more manifestly declared by the sign Scorpio upon his ascendant, and the evil positions of Saturn and the Moon with respect to Mercury, which governs his disposition. But as the meaning and radical import of all these significators, together with their various aspects and relative positions, have been so amply described, it would be unpardonable tautology to repeat them. I therefore mean this collection of remarkable nativities as so many striking examples, whereby to exercise the understanding and judgment of my readers, in obtaining a perfect knowledge of the astral science.

OBSERVATIONS on the NATIVITY of the Rev. JOHN HENDERSON, A. B. of *Pembroke College*, OXFORD.

THIS nativity exhibits a collection of the most remarkable configurations I ever saw comprised in one horoscope during the whole course of my practice; and it is really curious to remark their opposite designations, as they respectively occur upon the face of the genethliacal figure of birth, illustrated in the annexed plate.

According to the rectification of parallels, this native was born when the Sun was at its highest meridian altitude; at which time one degree fifteen minutes and twenty-four seconds of the princely sign Leo ascended the eastern finiter of the heavens, and affords the most exalted testimony of a noble and generous disposition. The sensitive powers and understanding of the native are represented by Mercury and the Moon. Mercury, who rules the active and rational part of the brain, is posited in the ninth, the house of religion and science; in the dignities of Jupiter, in conjunction of Mars, and within orbs of the benefic planet Venus. This sharpens the wit, and furnishes the
imagination



Planets Latitude & Declination				Rev. ^d		Planets Motion Fort & Deb			
♂	0 55	South	South 16 10	JOHN H. D. S. N. B.A. of Pembroke College. (OXFORD) Born 27 March at Meridian 1757 lat 52 30		♂	0 55	Phog	20 0
♂	1 18	North	South 16 15			♂	0 1	♂	11 0
♂	1 8	South	South 7 57			♂	0 17		11 0
♂	1 25	South	South 6 5			♂	0 59	11	15 0
♂	2 0	South	South 9 27			♂	1 11		8 0
♂	5 11	South	North 19 57			♂	1 17		0 6
						♂	11 51	Phog	1 0
						♂			0 0

imagination with inexhaustible powers of reasoning; and if we add to the foregoing testimonies, that Mars is configured in his own triplicity, and Venus in her exaltation, we shall discover the endowments of a mind apt for invention, with an impetuosity of natural ideas, scarcely to be equalled; which is still more confirmed by the strength and good aspect cast by Mercury, to the Moon, who rules the moisture of the brain, and thereby fructifies and strengthens the retentive faculty. This position of the significators likewise gives the native a strong taste for scientific knowledge, impels him to the consideration of abstruse and occult reasoning, and to the investigation of mystical divinity.

It is however much to be lamented, that, in the midst of all these propitious configurations, Mercury happens to be in his detriment; for thereby it is declared, that these splendid endowments will profit the native little or nothing. And, as five of the significators are posited in watery signs, it is too obvious a proof that he will be regardless of reputation and preferment, but will give himself up to the pleasures of conviviality, and sacrifice too frequently at the shrine of Bacchus. This failing is so strongly marked, that surrounding spectators, whilst they admire the brilliancy of his wit, and the acuteness of his understanding, will be equally surprised that he should not apply them to an useful and advantageous pursuit.

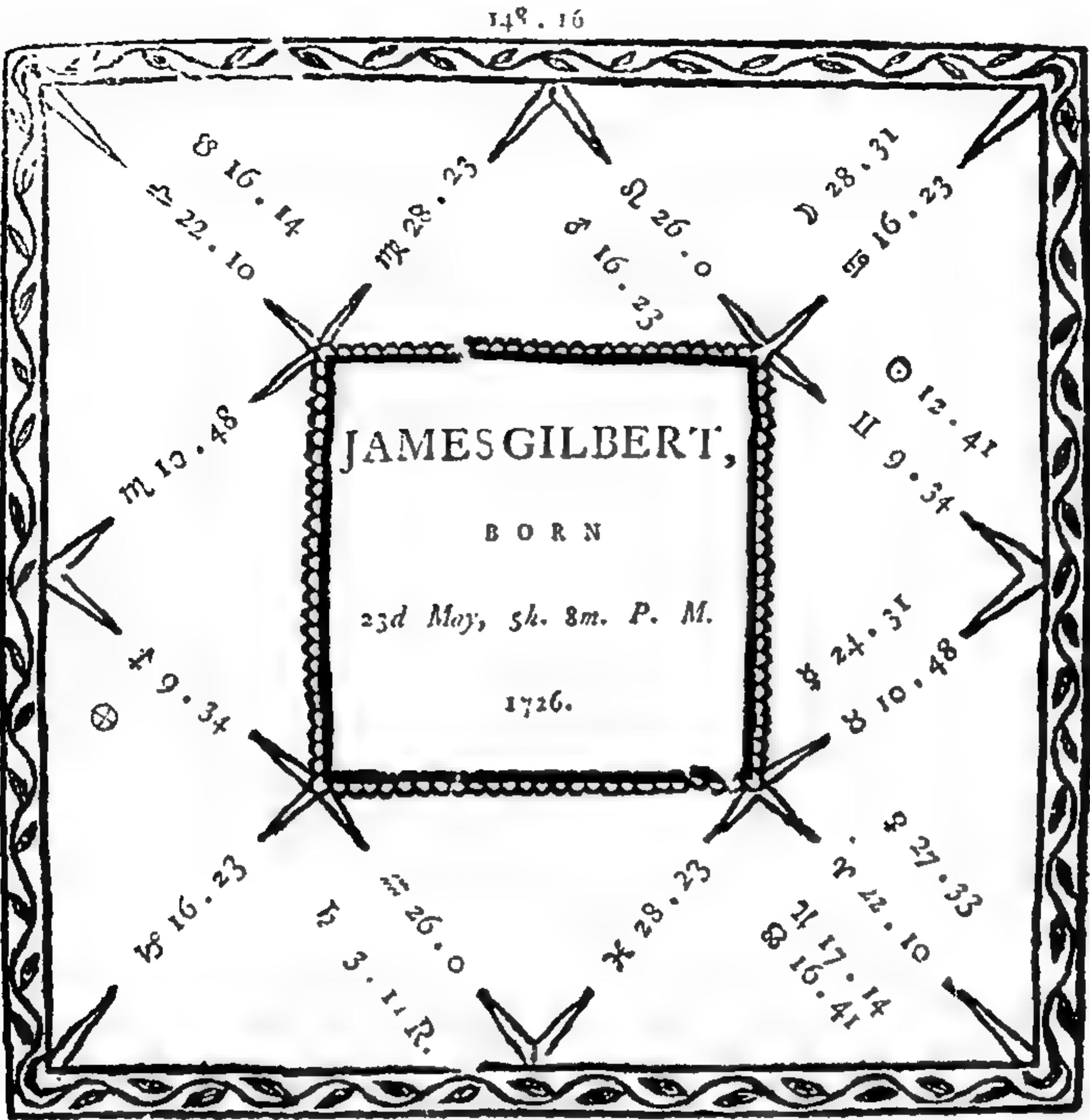
Nature has so endowed his rational intellect, that he is alike qualified for law, physic, or divinity; three avocations that perhaps few or none besides himself can claim equal pretensions to. These extraordinary qualities are thus defined from the horoscopical significators: Venus in the ninth house, in trine to Jupiter lord of the ninth, inspires him with a conscientious mind, formed for divinity; Mars in conjunction with Mercury gives him a depth of judgment and an acuteness of reasoning fitted for the law; and, as Venus is in conjunction with Mars and the Moon, at the same time that Jupiter beholds Mars and Mercury with a trine aspect, and Mars being lord of the tenth house, with the Sun exalted therein, these are so many decisive arguments to shew, that, had the native been professionally bred to the law, he would not only have acquired an immense fortune, but would have increased likewise in reputation and character. That he would have made an excellent physician, is every way obvious. Jupiter, lord of the sixth, the house of pharmacy and physic, is in Scorpio, a physical sign, and is dignified in the fifth, the house of prosperity and pleasure; and being in partile trine of Venus, and in trine also with his dispositor, as well as in re-

ception, at the same time that he is forming a sextile aspect with Saturn, lord of the seventh, these are evident demonstrations of a person born with the heavenly art of healing; and who, like the good Samaritan, not only possesses the ability, but the disposition likewise, of affording relief to his wounded or afflicted fellow-creatures.

This native is not only born with an extraordinary talent for either of the foregoing professions, but hath, in a most eminent degree, the gift of acquiring universal knowledge; possessing from nature a strong retentive faculty, a quick and lively perception, and a fruitful genius, apt for every kind of study, and formed for invention. In stature he is but short, as is described by the Sun in Aries; brown hair, grey eyes, full round features, and of a mild and placid disposition; though given to be satirical upon the ladies, as is demonstrated by Mars being in conjunction with Venus and Mercury in his detriment.

That the native might obtain preferment in the church, is abundantly evident, from the positions of so many planets in his ninth house; and therefore an excellent profession for him to follow, provided he would sum up resolution to set aside the dissipating rays of Mercury. I only submit this as a friendly hint to the native himself, who being alive, and possessing the ability of analyzing his own geniture, and of foreseeing the different events that are likely to result from the directions, it is my duty to leave the consequences thereof as a proper monitor to his future conduct, meaning to display the figure of his birth as an example only to my readers of the extraordinary circumstance of many illustrious aspects being deprived of perfect efficacy by one discordant configuration.

OBSERVATIONS on the NATIVITY of Mr. JAMES GILBERT.



LATITUDE.

h	0	21	S.
u	1	12	S.
e	1	20	N.
o	0	0	
f	2	20	S.
g	3	56	S.
d	5	0	N.

DECLINATION.

19	30	S.
5	51	N.
14	1	N.
22	25	N.
8	32	N.
15	10	N.
25	23	N.

This is the nativity of a person well known in the county of Kent ; a man who has a strong natural propensity to acquire knowledge, as is proved by the Moon's position in the ninth house, the house of science, in sextile to Mercury, in her own dignities. The sign Scorpio ascend-
ing

ing in the east, and Mars and Leo in trine of Venus in Aries, declare him to be of a well-formed body, and of a middling stature; of an open generous disposition, and fair and just in all his dealings, which is particularly described by Jupiter being in his own dignities, and in a good aspect with the Sun.

With regard to the native's substance, if we consider his birth, we shall find it has increased in a true proportion with what is promised by the significators in his genethliacal horoscope. The Part of Fortune is well situated in the second house; the Moon is likewise posited in her own house, encreasing in light and motion; Jupiter, who is lord of the second, the house of substance, and dispositor of the Part of Fortune, is conjoined with the Moon's fortunate node; and, having dignities in the fifth and sixth houses, prenotes that the native should derive advantages from such things as particularly relate to those houses, which are fully explained in page 165, &c. but, as these significators are all of them either in fiery or watery signs, it is apparent that such occupations as are more immediately under the government and controul of these signs would be found most profitable for the native to follow.

We might easily perceive that this native is not of a close and sordid disposition, owing principally to the remarkable configurations of the Moon, in quartile of Venus, in sextile with Mercury, and within orbs of an opposition of Saturn. The force of these predominant qualities, while under the particular direction of each respective aspect, will incline the native to be profuse, and careless about money-matters; will expose him to the imposition of the crafty and designing, and eventually to the loss of property, and the diminution of his substance, unless a great degree of spirit and resolution be exerted, to modify and correct this good-natured, but fatal, propensity. A hint to the wife is usually sufficient; and as this native is still living, and extensively surrounded with friends, I would by no means wish to hurt his feelings or draw down upon myself the resentment of those, who might have it in contemplation to take advantage of the native's generosity.

But to return. The third house is the house of journeys; and here we find the malevolent planet Saturn retrograde. This is a sure argument, that change of residence, and journeys in general, should prove unsuccessful and injurious to the native, either in the pocket, or by bodily affliction, or both, and should therefore be avoided as much as possible.

The

The fourth house bears designation of the principal scope and end of the native's life. In this angle we find the fixed sign Aquaries; and, as Saturn is posited in that sign, it is an argument that some houses or land should devolve to the native by hereditary succession; but Saturn, being retrograde, shews that this patrimony shall not be possessed until the native is far advanced in years, or in the latter stage of his life. The fifth house denotes advantages to be obtained, or losses to be suffered, by any species of adventure; and, as the Moon's fortunate node falls in this house, it is apparent that the native should in a general way be fortunate upon every such occasion, as cards, dice, hazard, dealing in the lottery, or sending goods upon the chance of a market to any of our settlements or connexions abroad. I have no doubt but this position of the dragon's head, conjoined with the benevolent planet Jupiter, who is lord of the second house, the house of substance, and bears rule likewise over the fifth, which relates to adventure, would prove extremely favourable to the native, were he to try his fortune in the lottery; more especially if he would be careful to choose his ticket under a favourable and corresponding revolution or direction, many of which are to be found in his nativity.

With regard to sickness or disease, and the accidents which are likely to be most fatal to the native, we shall, if we regard the sixth house, and the planets bearing configuration therewith, easily discover of what kind and quality they shall be. If we carefully consult the figure, we shall find that choler is the most predominant humour in the native's constitution; and that the effects of fire and air shall be most offensive and injurious to him; and for these very substantial reasons; namely, because we find a fiery sign occupies the cusp of the sixth house, with Jupiter, who governs the fiery triplicity, and he is posited therein. Jupiter likewise beholds the Sun with a friendly ray, and thereby strengthens his quality, because the Sun bears rule over the same triplicity, and is posited in an airy sign in the eighth house. We find also an airy sign upon the cusp of the twelfth house; and Mars, the lord of this native's ascendant, hath his feverish quality much encreased, by being posited in a fiery sign; and as this malefic beholds Venus with a trine aspect in the sixth, at the same time that she is a lady of the twelfth, and in quartile to the Moon, it renders that otherwise benefic planet inimical to the native's constitution. These testimonies all conspire to shew, that the native should be more than ordinarily subject to hot and feverish complaints, and to accidents from violent falls and bruises.

According to these positions of the planets, and to the directions wherewith their aspects are severally brought up, will the infirmities and misfortunes of this native be respectively found. At about eighteen years of age, namely, when Venus perfected her mundane parallel with the Sun and Mercury, he was afflicted with a long and violent intermittent fever. At twenty-four years of age, he had another violent fever, which produced the measles. This was brought on by the baleful configuration of Saturn in opposition of Mars, lord of the ascendant, and was so powerful and violent, owing to Saturn being in his own house, and coming at the same time to a mundane parallel of Mars, that no person whatever expected his life; nor could he have survived so severe an attack, had the hylegiacal and anaretical stars been united in the configuration, to the want of which we can alone attribute the preservation and continuance of the native's life.

At the age of thirty-four years and three months, the native is again attacked with a violent ice ching fever, which nearly absorbed all the humours of his body, and annihilated the blood and animal juices. This was produced by a joint and most remarkable opposition of the Sun and Jupiter to the ascendant; whereby Jupiter partakes of the consuming heat and violence of the Sun, being in sextile aspect with him, in the fiery sign Aries, in the sixth house; at the same time that the Sun, being in the airy sign Gemini, in the eighth, is most apt to corrupt the blood, and to promote putrefaction. His fever continued with astonishing violence, until the Moon's crisis superseded the force of the direction, and abated, by its nutritive and moistening quality, the consuming heat of the preceding configuration.

At the age of forty years and one hundred twenty-seven days, the Sun comes to a mundane quartile of the ponderous malefic planet Saturn, which from natural designation portends little less than inevitable destruction, from some sudden bruise or violent concussion of the circumambient matter. Had this aspect been formed of Mars instead of Jupiter, I should have predicted danger of death from the sudden and all-devouring stroke of lightning; but the quality of Saturn describes it to be the effect of some violent blow, or fall from an eminence. And the fact has really turned out, that the native most improvidently, at this age, got up into a tree, from whence he fell to the ground, and broke several of his bones, and lay for a considerable time without the least prospect or hopes of recovery; but, as this malevolent aspect was not made to the hyleg, it was impossible it should destroy life, no
matter

matter how much the human frame was injured and deranged by the violence of the fall.

From the seventh house we collect information concerning wedlock and marriage, and its probable consequences. This house therefore represents the native's wife, who is described by Mercury in Taurus as a lively but head-strong woman ; ingenious, quick, and penetrating, but positive, and self-willed. This marriage was brought up by the mundane sextile of the Sun and Moon, and may be ranked amongst the mediocrity of the happy ones.

The eighth house shews us what might be expected from the wife's substance, either from dowry or from legacy ; and likewise what portion of happiness and content may probably be found in company therewith. As to the first of these, we may observe that the Sun, in so impeded a position, rather destroys the fortune of a wife than adds to it ; and, as to the second, there does not appear, either from earthly connexions, or from heavenly configurations, any reason to form extensive expectations. The best way in all these cases is wisely to learn to be content with our lot.

The ninth house relates to professional science, to sea-voyages, and the like. And, as the Moon is posited therein, it shews the native, in his early days, should have a strong inclination to go to sea, and to travel into foreign parts ; but Saturn being in opposition to the Moon, and a superior planet, over-rules this disposition ; and shews, by his position, that, if the native had gone to sea, he would have suffered an uncommon share of perils and dangers, by stormy weather, public enemies, and shipwreck. As to science, we have already seen the native's inclination and propensity towards it ; and, considering his situation, and the difficulties he had to encounter, he has made great proficiency therein, although Saturn has often proved detrimental to him even in this pursuit, notwithstanding the vigour of his mind, and the zeal of enthusiasm ; for Saturn, by casting an opposite malignant ray to the Moon, who rules the moisture of the brain, proportionably dulls the understanding, and causes the native to labour hard for every grain of knowledge he has the good fortune to obtain.

The tenth house is the house of trade, honour, and profession. In this portion of the horoscope we find Mars, lord of the ascendant, beheld by the trine aspect of Venus ; but, as Venus is in her detriment,
it

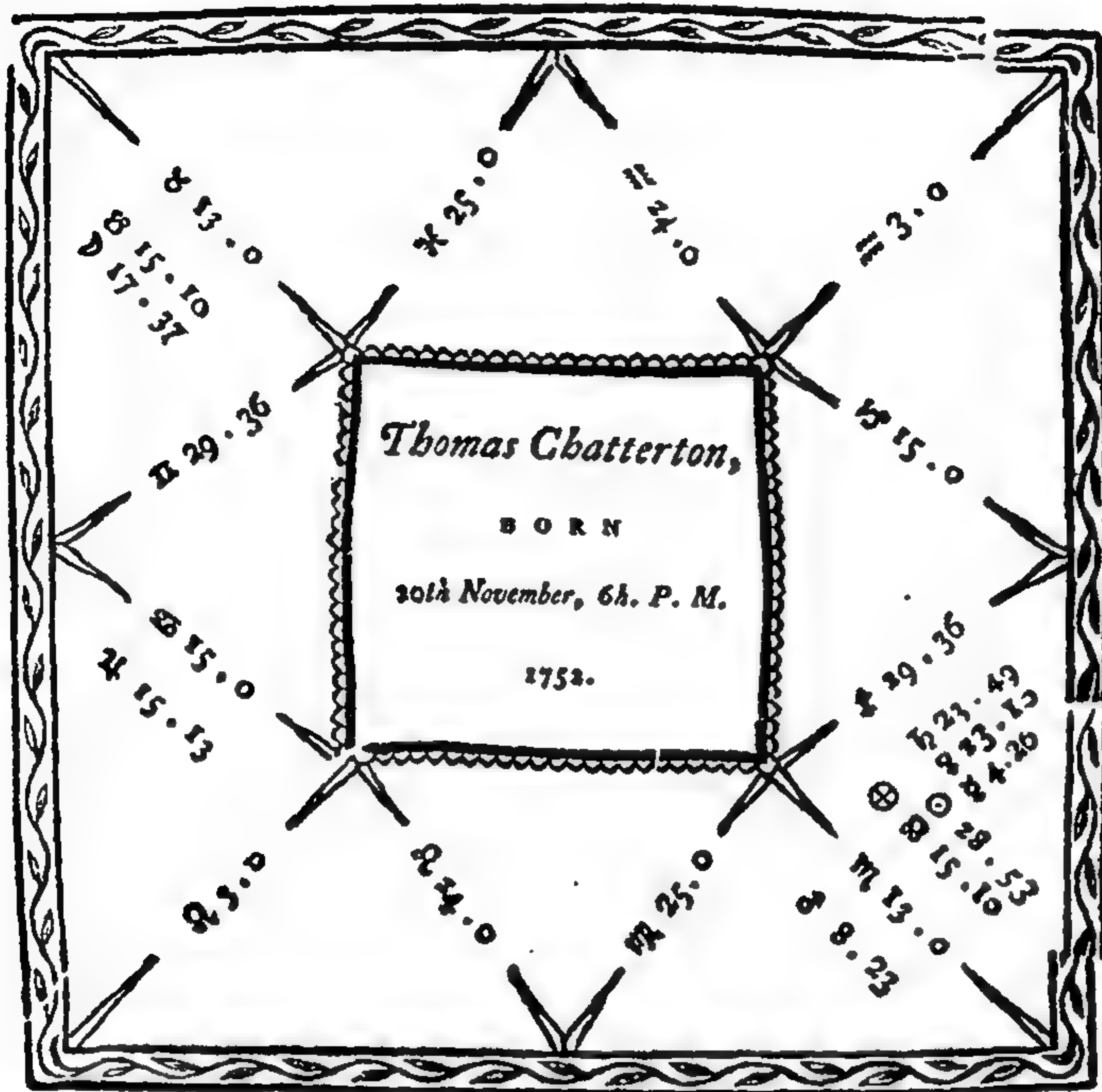
it is apparent she cannot afford that eminent prosperity and unimpeded success the otherwise might do. It is however pretty obvious that the native's advancement in life is not to be ranked amongst the most inconsiderable; and that this success, in the department of physic and chemistry, should neither be disreputable nor unprofitable. Mars posited in the mid-heaven, out of all his essential dignities, generally declares the native to be violently passionate and rash; but here we find his hasty temperature cooled by the mild trine of Venus, which meliorates the native's disposition, and induces him to be more gentle and kind.

In the eleventh house we find the unfortunate node of the Moon, commonly called the Dragon's Tail, which implies hypocritical enemies and perfidious friends. Of these I make no doubt but the native has had ample experience; and therefore, from what has already come to pass, I would admonish him of the future; being convinced, from this position of his geniture, that no part of his life will be exempted from the attacks of those assailants. This position of the malefic node likewise declares, that the native shall suffer great disappointments in his pecuniary hopes and expectations.

The twelfth house relates to public enemies, imprisonment, and great cattle. Venus being lady thereof, posited in the sixth, in opposition, declares the native shall be unsuccessful in any dealings in cattle; at the same time it discovers his professed enemies to be in too abject a situation to do him much injury. As to imprisonment, there does not appear to be the least apprehensions of; but that the native will live in prosperity during the remainder of his days, and yield up the ghost upon the bed of liberty, full of years, and amidst the good offices of his friends, I am bold to affirm, from the consideration of those celestial intelligencers that have never yet deceived me.

CONSIDE-

CONSIDERATIONS on the NATIVITY of Mr. THOMAS
CHATTERTON.



LATITUDE.

5	5	58	N.
4	0	1	S.
3	0	26	N.
0	0	0	
2	1	8	S.
2	1	0	S.
2	0	3	S.

This gentleman was a native of Bristol, much celebrated for his literary productions, and for the originality of his ideas, which rose early in the horizon of his life, and set as prematurely upon its hemisphere,

No. 40. without

without even allowing him to attain its meridian altitude. In short, this is a very remarkable, at the same time that it is a most unfortunate, geniture. Upon the ascendant we find the sign Gemini, and Mercury lord thereof, which lays the foundation of a sharp wit, and an acute understanding. But then Mercury, his principal significator, is posited in the sixth house, in his detriment, and in combustion of the Sun ; an infallible argument of a wretched life and a fatal end.

This judgment is corroborated and confirmed in a most extraordinary manner, by the coalition of the Sun, Saturn, Venus, Mercury, and the Part of Fortune, in the sixth house, which presages every species of misfortune that can arise from poverty, and from the chicanery of prostituted women ; the immediate effect of the baleful rays of Saturn and Venus. This fatal conjunction, to which Mars is approaching with accumulated malevolence, hath designation of a thousand distressing occurrences, which occasionally torment, and alternately pervade, the native's mind.

We likewise find the Moon posited in the twelfth house, receding from a sextile with Jupiter, and forming an opposition with the Sun ; that is, departing from the early good and prolific temperature, to increase the virulence of the other malefic rays. The Moon is lady of the second house, and therefore in a more particular manner governs his substance ; and, by being in the twelfth house, the house of imprisonment and affliction, denotes a frequent want of present cash, and the dangers to which the native would be often exposed on that account ; which would have been dreadful indeed, and perhaps secured the native for a length of time within the iron gates of a prison, had not the more benevolent planet Jupiter been in his exaltation in the second house, which fortunate configuration lessens the foregoing baneful influences, and is the means of producing timely and unexpected relief, in pecuniary matters, to the native, when nothing but the most abject and barren prospects stood before him ; and but for which fortunate occurrence, he had certainly experienced the most abject penury and want. And here it is remarkable, that whatever blessing, or whatever abundance, should be thrown in his way by the genial influence of Jupiter, is either abused, or improvidently squandered away, under the opposition of the Sun and Moon ; and, by the Moon's conjunction with her unfortunate node, we are more clearly convicted that the native will experience very embarrassed circumstances.

The Part of Fortune unluckily falls in conjunction with Saturn and Venus ; and, as Saturn is posited in a sign out of all his dignities, and is the lord also of the eighth house, his influence is implicative of certain ruin by means of wicked and debauched women, described by Venus, conjoined to the worst rays of Saturn. This construction is abundantly confirmed by the constitution of the hylegiacal and anaretical places of the figure, and the disposition of the significators by which they are respectively irradiated. The ascendant, in this horoscope, must be considered as hyleg, or giver of life, since neither the Sun, Moon, nor Part of Fortune, is so posited in the geniture, as to entitle either of them to the pre-eminence ; and it is the peculiar quality of the ascendant, occupied by Gemini, and governed by Mercury, to stamp upon the native so early and so extraordinary a turn for literary pursuits ; which are too well established to need any other proof, than that they were communicated to the intellectual faculty by this construction of the hyleg and circumambient matter at the time of birth.

We are here likewise to remark, that Saturn is the anareta, or destroyer of life, and is posited in the most noxious position that could have happened, and where he usually prenotes the fatal commission of suicide, without so much as one friendly ray to oppose his influence, or to render the shocking attempt partial, or less destructive than a cause that will certainly touch life. On the contrary, here is a concatenation of evil rays, which in a remarkable manner contribute to a premature death. The Sun and Moon are in opposition to houses that are under the influence of the worst causes of death ; and as Venus is in conjunction with Saturn, who rules these evils, and draws them as it were within the focus of her own orb, it is evident that his death would come by his own hand, under the pressure of despair, heightened by meagre want, through the perfidy of some abandoned female.

If we acquire minutely into the life of this unfortunate man, we shall find every action and prediction of the stars, which were the impressors at his birth, fully and completely verified. He was born of no very distinguished parents, and received but a small share of classical education ; yet his productions, at a very early period, were such as excited the admiration of the first scholars of his day, and proved him to inherit great natural ability and genius ; insomuch that Mr. Wharton, in his additions to his History of Poetry, vol. 2, hath taken occasion to observe, *That Mr. Chatterton had given a singular instance of prematurity of abilities, and that he had acquired a store of general information far exceeding*

exceeding his years ; that he possessed a comprehension of mind, and activity of understanding, which predominated over his situations in life and his opportunities of instruction. But notwithstanding he was thus gifted, and possessed so eminent a share of sterling sense, yet he combined with it all the vices and irregularities of youth, and his profligacy was at least as conspicuous as his abilities.

Finding himself encompassed with private enemies, surrounded with the evils of poverty, and destitute of every means of subsistence, he quitted Bristol, to try his fortune in the metropolis. Having fixed himself in private lodgings, he sought for bread through the medium of his literary talent, which falling short of his expectations, as well as of his merit, he most unfortunately fell into the hands of the lower order of prostitutes, by whom he was duped, diseased, and finally deserted ! In this deplorable situation he continued a few months, occasionally drudging for the booksellers, who neither having the generosity to reward him as he deserved, nor spirit to advance upon the credit of his future productions, he at length, oppressed with poverty and disease, and overcome by despair, put an end to his existence, in the month of August, 1770, by a dose of poison, which he prepared with his own hand.

If we consider the quality of the direction which produced his death, we shall find the manner of it most aptly described in his figure of birth. Saturn thus configurated with Venus, in that particular part of the heavens, and under such noxious irradiations, hath at all times, as well by Ptolomy as by every other respectable professor of this science, been found to occasion death by poison ; and so many concurrent testimonies in the house of sickness and disease bear the strictest affinity thereto ; and this fatal direction is much strengthened by coming up with the revolution of Saturn.

Mr. Chatterton, notwithstanding his foibles, and his want of a more scholastic education, was nevertheless a benevolent man, and a good scholar. He certainly laboured hard, and combated many obstacles, in his literary attainments ; but his success was great, and had he been born to great prosperity, and under the influence of milder stars, he had been an ornament to the age in which he lived, and an honour to his country. I have many reasons to believe, that his knowledge of the uranical part of Astronomy had enabled him to foresee, by his own geniture, the evils he had to combat, and the fatal termination of a
life,

which his own folly had rendered insupportable ; but which an
 ofite conduct, and a more manly resolution, might confessedly have re-
 ied and prevented. This serves to shew, that there certainly is a fate
 nature, which nothing but the rational means made use of by He-
 iah, 2 Kings, chap. xx. can alleviate or prevent, namely, unfeigned
 yer, and a determined spirit to abandon the allurements of vice, and
 walk perfect in the ways of God and Truth ; which verifies the an-
 ent proverb, *That wise men rule the stars ; and none but the giddy and*
thoughtless are ruled by them.

That Mr. Chatterton's acquaintance with this science, and his ap-
 ation of it, may not be disputed by those critics who are unwilling
 nit it has ever had the sanction of men of sense or learning in the
 at age, I shall conclude my remarks on his nativity, by subjoining
 excellent verses he wrote upon the occasion, after he had made
 progress enough in the study, to be convinced of its importance and
 utility.

THE Sun revolving on its axis turns,
 And with creative fire intensely burns ;
 Impell'd the forcive air, our earth supreme
 Rolls with the planets round the solar gleam :
 First Mercury completes his transient year,
 Glowing, refulgent, with reflected glare ;
 Bright Venus occupies a wider way,
 The early harbinger of night and day ;
 More distant still our Globe terraqueous turns,
 Nor chills intense, nor fiercely heated burns ;
 Around her rolls the Lunar Orb of light,
 Trailing her silver glories in the night :
 On the earth's orbit see the various signs,
 Mark where the Sun, our year completing, shines.
 First the bright Ram his languid ray improves ;
 Next glaring wat'ry thro' the Bull he moves :

The am'rous Twins admit his genial ray ;
 Now burning thro' the Crab he takes his way ;
 The Lion, flaming, bears the solar power ;
 The Virgin faints beneath the sultry shower.

Now the just Balance weighs his equal force ;
 The slimy Serpent swelters in his course ;
 The fabled Archer clouds his languid face ;
 The Goat, with tempests, urges on his race ;
 Now in the Water his faint beams appear,
 And the cold Fishes end the circling year.
 Beyond our globe the sanguine Mars displays
 A strong reflection of primæval rays ;
 Next belted Jupiter far distant gleams,
 Scarcely enlight'ned with the solar beams ;
 With four unfix'd receptacles of light,
 He tow'rs majestic thro' the spacious height :
 But farther yet the tardy Saturn lags,
 And five attendant luminaries drags ;
 Investing with a double ring his pace,
 He circles through immensity of space.

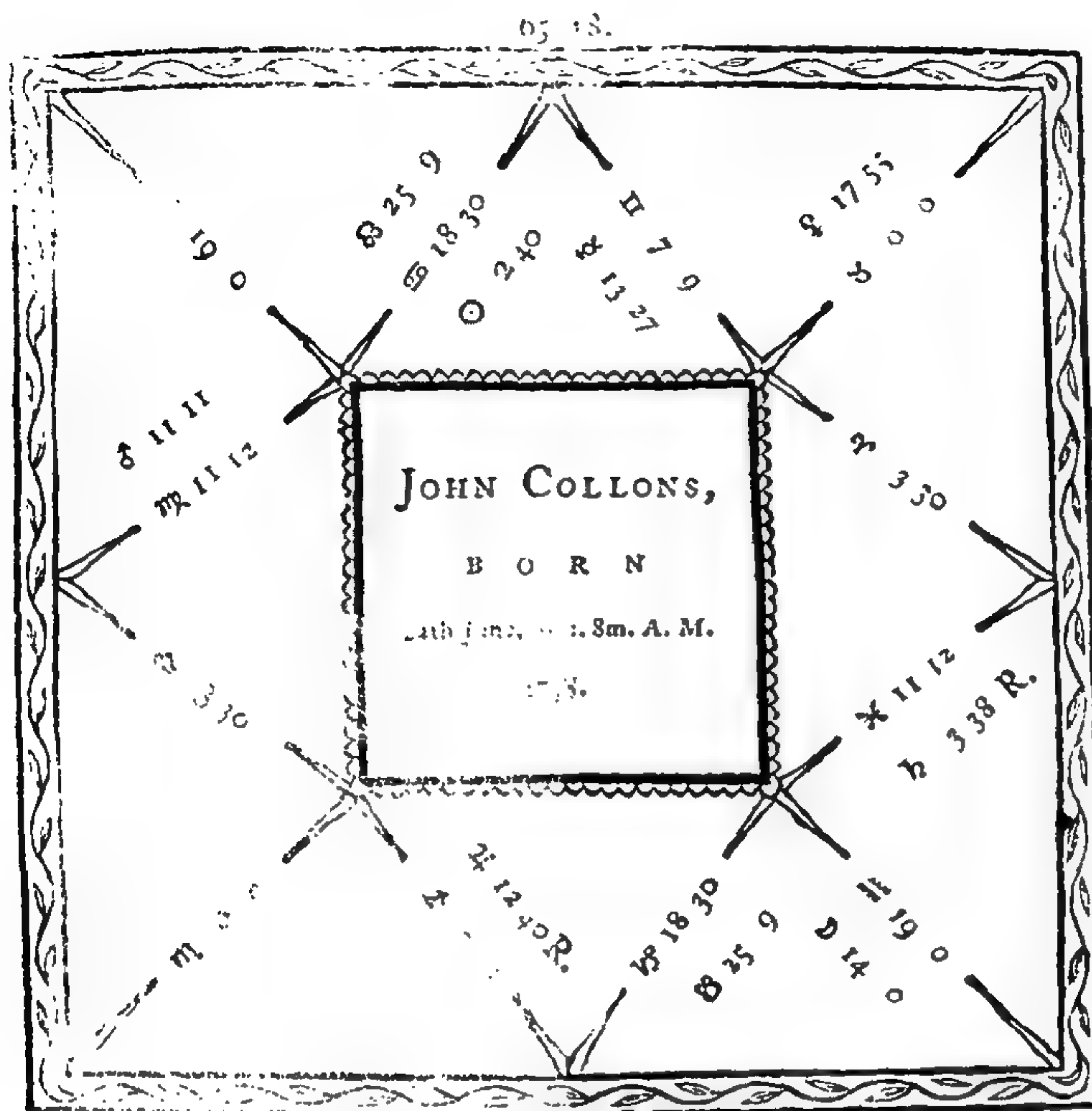
These are thy wond'rous works, First Source ;

Now more admir'd IN BEING UNDERSTOOD

BRISTOL, Dec. 23.

CONSIDER.

CONSIDERATIONS on the Nativity of JOHN COLLONS.



Latitude.				Declination.			
	°			°			
♈	1	30	S	11	45	S	
♉	0	30	N	21	46	S	
♊	0	54	N	8	16	N	
♋	0	0		23	30	N	
♌	2	47	S	14	34	N	
♍	4	0		18	30	N	
♎	1	42	S	18	20	S	

I am induced to give the foregoing horoscope a place in my work, as a remarkable example of the influence of the stars upon a malefactor, whose crimes exposed him to the forfeiture of his liberty and life, by the iron hand of the law.

This

This unfortunate man resided in Bristol. He contracted an intimacy with a female, and lived with her in the closest habits of the sexes, until they had several children. At length disagreements arose, in consequence of his refusing to marry her, and a violent quarrel separated them. The woman immediately attached herself to another man, to whom she was shortly after married, totally forsaking her former connexion. The native, enraged at this circumstance, took frequent opportunities of way-laying and remonstrating with her; of claiming a prior right to her person, and of insisting on having familiarity and contact with her whenever he pleased; but she rejected him with contempt, and threatened prosecution whenever he attempted to force her.

Hurt at this repulse, and exasperated at the indifference with which he was treated, he took an opportunity of watching the husband from his bed, who, being a labouring man, went early to his work; upon which the native made his way into the house, went up stairs, and found the wife in bed. Demanding familiarity with her, he was refused, with severe reflections on the method he had taken to get into her bed-chamber. He then drew his knife, and, with a degree of inhuman barbarity better conceived than expressed, he threw himself upon the bed, and cut her throat from ear to ear.

The alarm was soon given, and the cry of innocent blood became general. The culprit was seized, examined, and committed to Newgate for trial. He there affected to shew marks of insanity, and, for some considerable time before the assizes, was generally believed to have perpetrated the bloody act in a paroxysm of madness, which was now become visible in all his words and actions. His friends availed themselves of this circumstance to palliate his guilt, and took every step to improve the advantage against the day of trial, when it was generally believed that he would be acquitted. Different parties, however, had taken up the matter on different grounds; and it was at last agreed, by some gentlemen of respectability in Bristol, that I should be requested to inspect his nativity, and to give my judgment whether he would be found guilty, or acquitted. I readily accompanied the gentlemen to Newgate, and obtained the estimate time of the prisoner's birth, which I rectified by the method heretofore laid down, and found the significators of his nativity disposed as in the foregoing horoscopolical figure, which I thus explained.

Mercury being lord of the ascendant, irradiated by a malefic quartile aspect of the planet Mars, and afflicted by an opposition with Jupiter,

piter, declares that the native shall be involved in an abyss of troubles and afflictions, even to the hazard of his life. As to temper and propensity of the will, he is rash, violent, and arbitrary; unstable in his pursuits, and usually disappointed in his expectations. This is denoted by the opposition of Jupiter to Mercury; but the quartile of Mercury with Mars, particularly when Mercury is constituted principal significator, hath implication of high crimes and misdemeanours, and usually produces violent contention, assassination, murder, rapine, robbery, and bloodshed, as we have more particularly delineated, in p. 229, 230.

Upon a further inspection of the figure, we find a baneful quartile aspect of Mars and Jupiter, with a mischievous opposition of Saturn and Mars. To the first of these we are to attribute the dissolute manners of the native, since it influenced the mind to those immoral habits, which eventually lead to perfidiousness and treachery, whilst the second configuration not only confirms these vices, but shews that they will be the means of his death. Here is unquestionably a favourable trine of the Sun and Saturn; but no great good can result from it, because the Sun is lord of the twelfth house, posited in the tenth, out of all his essential dignities; at the same time that Saturn is lord of the sixth, located therein, and both the significators are under the dominion of the *evil genii*, vitiating the mind and affections of the native, and tending to an ignominious and premature end.

At the time the unhappy native was prompted to commit this barbarous act, the Moon came to an opposition of Mars by direct direction, while she occupied the cusp of the seventh house, which represents the unfortunate woman; and the quartile of Jupiter lord of the fourth, with Mercury lord of the ascendant, hath designation of the native, and points out the fatal connection betwixt them.

Having considered so much of the horoscope, it was my next care to ascertain the hylegiacal and anaretical stars, and the particular influx flowing from them. The Sun I find to be giver of life, posited in the tenth house, the house of justice; Mercury, lord of the ascendant, being in Gemini, an airy sign, and the Moon likewise in an airy sign, shew the manner of the native's death, that he would die suspended in the air, while the opposition of four planets in the radix, and the mundane quartile of the Sun and Mars, from the tenth, the house of justice, shew the quality of it, namely, that it should be in due course of law, by the hands of the common hangman, and not by suicide.

The significators of justice likewise, considered judicially from their respective positions in relation to each other, give no prospect whatever of favour from the judge, nor of any effectual interposition after conviction ; so that I made no scruple to affirm, That, notwithstanding the hopes that had been formed of saving the native's life by pleading his insanity, and the number of persons who appeared anxious to serve him, yet all their endeavours would prove abortive, since he would certainly be found guilty, and suffer the sentence of the law in consequence.

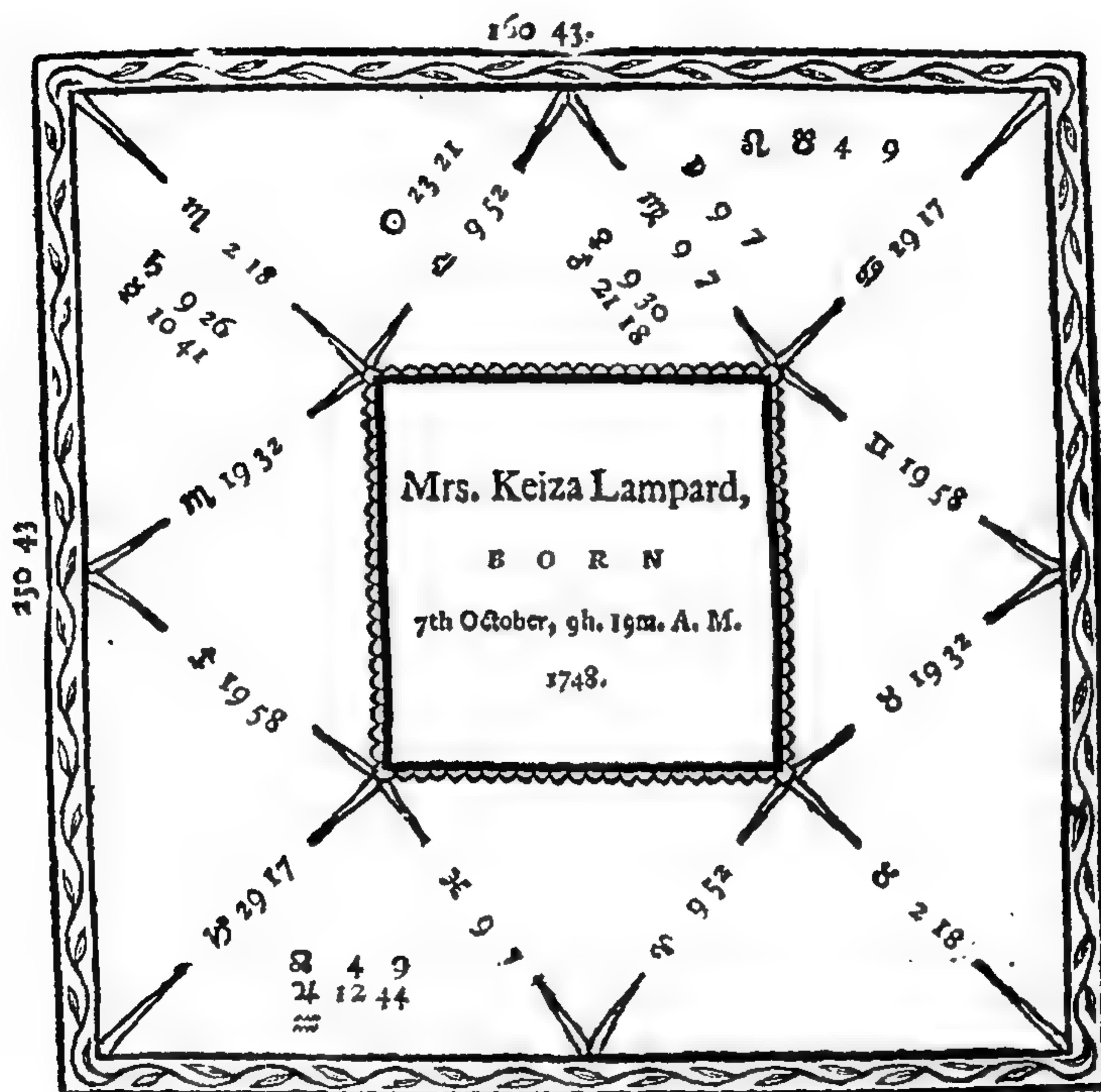
It would be needless here to relate, how much this prediction was ridiculed by all degrees of people in Bristol ; or with what contempt my opinion was treated by most of the poor man's friends. And it was with some difficulty I could pass without insult. I was determined, however, to place my judgment in a more striking point of view. The assizes were not fixed, nor could any person undertake to say when they would be, much less ascertain the day of the native's trial. I therefore brought up the direction of death, with great nicety and precision, and found he would be plunged into eternity, when the Sun came to the anaretical point in the midheaven, and met the noxious beams of the Moon and Mars in opposition, which, thus constituted, is ever productive of a violent death. Those, who will take the pains to equate this direction, will find the content of its arch to be twenty-seven degrees thirty-four minutes, which, turned into time, and reckoned from the hour of birth, will be found to come up on the eighth day of April, 1785, and gives the space of life twenty-six years, nine months, and some odd days, which exactly answered to the native's age. I then publicly declared, notwithstanding the popular clamour was so much against me, that the prisoner would suffer on the above day ; and as the assizes were not fixed, no one could charge me with having drawn my conclusions from the probable event of the day of trial.

When the solemn hour arrived, every one appeared anxiously interested in the event ; and the utmost exertions were used to save the unfortunate prisoner from the fate impending over him—but in vain ! After a long and indulgent trial, the jury pronounced him guilty, and he suffered the law, as thousands can testify, on the very day I had predicted.

And here let me just remark, that this geniture not only points out, by the constitution of the Moon and Mercury in airy signs, that the native would be hanged ; but Mars being in quartile to the Sun, who is giver of life, and upon his ascendant, describes the circumstance of his dissection, as may be seen by the rules already laid down in the former part of this work.

CONSIDER-

CONSIDERATIONS on the NATIVITY of Mrs. KEIZA LAMPARD, who died in Child-bed.



Latitude.			Declination.			
	°	'		°	'	
♋	2	9	N	12	39	S
♌	1	3	S	18	2	S
♍	1	15	N	4	34	N
♎	0	0		9	52	S
♏	0	40	S	6	25	N
♐	1	0	S	16	1	S
♑	2	56	S	10	57	N

This

This geniture bespeaks a female of a sharp wit, and lively disposition. Mars is lord of the ascendant, posited in Virgo, the exaltation of Mercury, but in no aspect with any planet in the heavens, consequently the fashion and temperature of the native will be formed principally of Mars; who, as we have seen before, produces, when in Virgo, a middling stature, inclining to brevity, hot and fiery temper, rash and invincible in all disputes, and ungovernably violent in hasty quarrels, yet soon appeased by good nature and submission, which at all times induce her to be tractable and industrious, and for the most part sober and frugal. Her features are described to be thin and pale, occasioned by the Moon's conjunction with Venus; yet of a pleasing and agreeable visage, owing to the influx of the beams of Venus, who is the author of beauty. But, by reason that Venus is in her fall, the symmetry of features will be proportionably deranged; and, as Saturn, the author of deformity, beholds both the Moon and Venus with a sextile ray, it becomes evident that the native could only be moderately handsome. The mixture of these significators give her brown hair, and great volubility of speech, from which great inconveniencies arise, and sometimes losses and injuries, as is particularly denoted by the reception of Mercury and Mars, and the conjunction of Saturn with Mercury in the twelfth, the house of private enemies.

This nativity might be classed amongst those of a mean and obscure designation, since we find no one planet through the whole horoscope essentially fortified, except Mercury and Mars, and that is only by reception, which, from the constitution of their places, declares good by evil means, with a disposition to low and vulgar pursuits. And here it may not be improper to remark, that, whenever we find the planets, in any nativity, out of all their essential dignities, we might safely conclude, that their effects will in no shape be remarkable or extraordinary, and that the native will lead generally a mean and obscure life.

That this person should live to years of maturity, is abundantly evident from the constitution of her horoscope; as well as that she would enter into the marriage state. Venus and Mercury, in this figure, give testimony to the husband, who is described by Jupiter, on twenty degrees of the ascendant, under the government of Saturn; so that it was very improbable, if not impossible, that the native would marry young, because Saturn is above the earth, conjoined with the significator of her husband, and declares she would not enter into that state at least under thirty years. In fact, there is but one direction within that period, that could possibly have brought it to pass; and that came up
when

when she was only about twelve years old, so that its effect passed off in her minority, without producing any sensible operation. The direction which perfected her marriage came up when she was thirty-one years three months and eleven days old, namely, on the fifth of February, 1785, when Venus came to the trine of Jupiter; as appears by the following calculation:

The right ascension of the Δ of μ ,	-	-	191°	42'
The right ascension of φ , with latitude,	-	-	160	43
<hr/>				
Arch of direction,	-	-	30	59

Which, added to the right ascension of the Sun, and turned into time, as before pointed out, produces exactly thirty-one years, three months, and eleven days.

Upon a further investigation of the horoscope, we shall find that Mars is not only lord of the ascendant, but hath sole dominion over the fifth and twelfth houses, which presage those kind or species of evils to the native as are usually produced in those particular positions of the heavens. The twelfth house being the house of affliction, and Mercury and Mars in reception therein, it declares the native shall prove in many respects her own enemy; and, as Mercury is in conjunction with Saturn, who likewise communicates an influx of malefic rays to Venus and the Moon, whereby they participate of his quality and nature, in the sign Scorpio, which rules the secret parts, it evidently demonstrates great and imminent danger to the native by child-bearing. And the Sun being in the eleventh house, opposed to the fifth, which is the house of children, and being likewise the *anareta*, or destroyer of life, it evidently proves the native's death shall arise from child-birth; and so it really happened; for soon after her delivery of the fifth child, in the thirty-ninth year of her age, she was suddenly seized, and died in a few hours after, on the 13th of August, 1787.

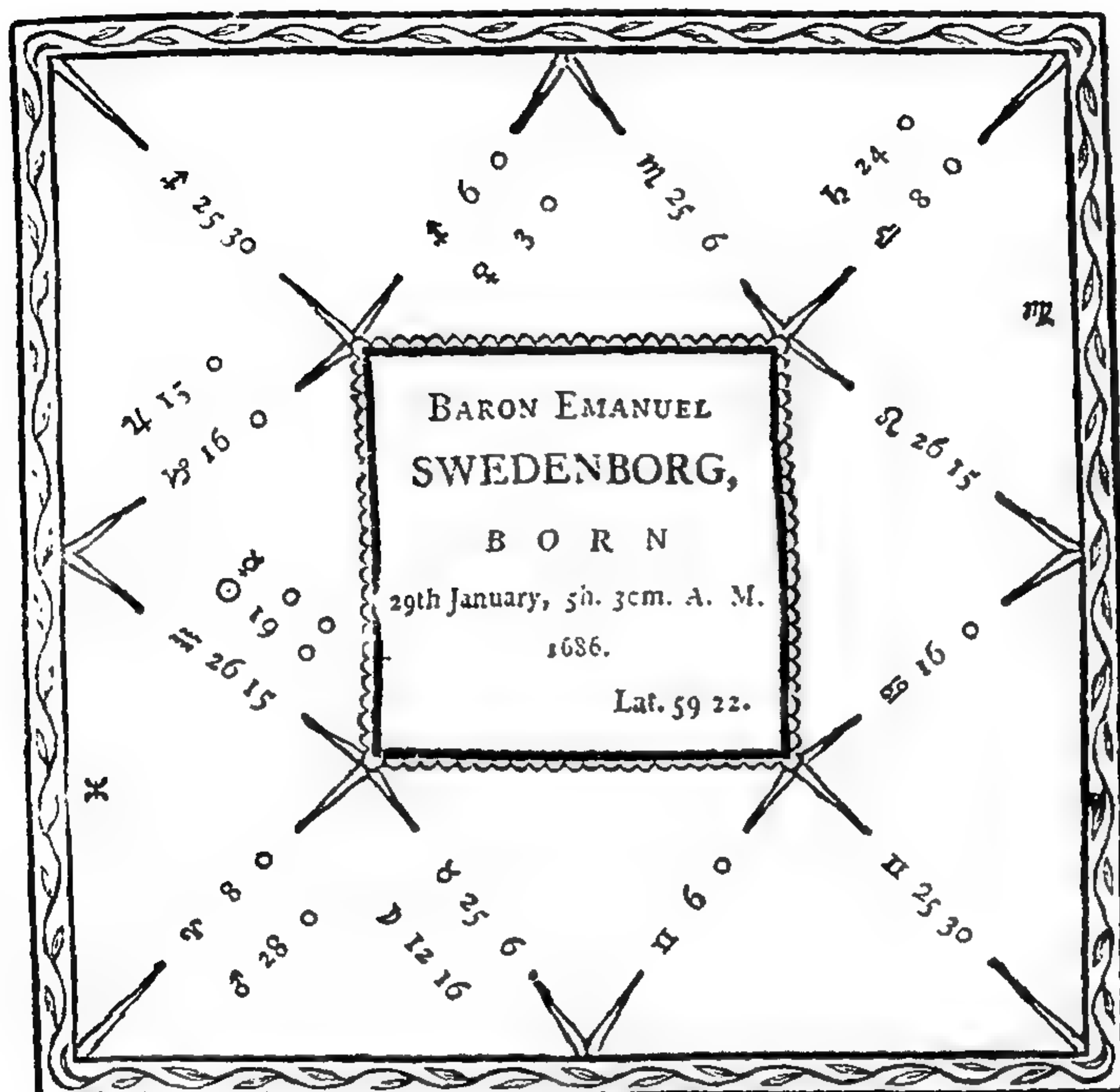
The direction under which she died, is the Moon, which is *apheta*, or giver of life, to the conjunction of the Sun in the eleventh house; at which exact time Venus came to the same anaretical point, and Mars, lord of the ascendant, to the twelfth house, where the malefic rays of Saturn and Mercury contribute their baneful influence, all which considered together, denote, in the most remarkable and decisive manner, a child-bed death to the native.

Many other considerations might be adduced from this geniture; but, as the only proof we wish to establish is to shew, according to natural causes and effects, the certainty with which the time and manner of death might be ascertained by the force and influx of the ambient and elementary matter, prescribed by the laws and motions of the heavenly bodies, it would be deviating from our plan, and prove derogatory to the good sense of the reader, to dwell longer upon subordinate speculations.

It may not however, be unentertaining to the curious reader, were he to compare the configurations formed by the planets in this horoscope, and the particular influx of their respective beams, with those general rules and observations heretofore laid down, for the purpose of ascertaining the quality of death. The wonderful harmony, order, and precision, with which the heavenly bodies operate upon this sublunary world; the uniformity with which the same causes are found to produce the same effects; and the certainty with which the time and manner of human dissolution is sought out by them, will at once inspire the mind with the most elevated ideas of the omnipotence of God, and lead the soul to those divine contemplations, which are founded in humility, gratitude, and love!

CONSIDER-

CONSIDERATIONS on the NATIVITY of the HONOURABLE
BARON EMANUEL SWEDENBORG.



The singularity of the character and doctrine of this illustrious native would be a sufficient reason for my offering a sketch of his geniture to the inquisitive reader, had I no other motives for taking notice of him in this place. But, as the literary pursuits of Baron Swedenborg have been principally directed to an explication of the doctrine of spirits, and the state of departed souls, which we shall have occasion to advert to in the magical part of this work, I conceive it highly proper to speak of his endowments by nature, agreeable to that doctrine of secret and occult influence received by the terrestrial from the spiritual world, which he has with so much ability and acuteness endeavoured to prove. And, when I reflect that he was our co-temporary, and his person and manners well known to many respectable personages now living in this coun-

country; that he is the latest writer upon the nature and existence of immaterial beings, and has thrown much new light upon the subject; it cannot be unentertaining, nor unimportant, to illustrate, by his nativity, the extraordinary endowments of his mind.

But, before I speak of the constitution and quality of his geniture, it will not be amiss to introduce the reader to a nearer acquaintance with this celebrated author, which I shall do by quoting his own account of himself, as given in a letter to a friend, published in his works.

Baron Swedenborg's Answer to a Letter from a Friend, printed in his Preface to the World of Spirits.

I TAKE pleasure in the friendship you express for me in your letter, and return you thanks for the same; but, as to the praises therein, I consider them as belonging to the truths contained in my writings, and so refer them to the Lord our Saviour as his due, who is in himself the Fountain of all Truth. It is the concluding part of your letter that chiefly engages my attention, where you say as follows: "As after your departure from England disputes may arise on the subject of your writings, and so give occasion to defend their author against such false reports and aspersions, as they who are no friends to truth may invent to the prejudice of his character, may it not be of use, in order to refute any calumnies of that kind, that you leave behind you some short account of yourself, as concerning, for example, your degrees in the university, the offices you have borne, your family and connections, the honours which I am told have been conferred upon you, and such other particulars as may serve to the vindication of your character, if attacked; that so any ill-grounded prejudices may be obviated or removed? For, where the honour and interest of truth are concerned, it certainly behoves us to employ all lawful means in its defence and support." After reflecting on the foregoing passage, I was induced to comply with your friendly advice, by briefly communicating the following circumstances of my life.

I was born at Stockholm, in the year of our Lord 1689, Jan. 29. My father's name Jesper Swedberg, who was Bishop of Westrogothia, and of celebrated character in his time. He was also a Member of the Society for the propagation of the Gospel, formed on the model of that in England, and appointed president of the Swedish churches in Pennsylvania and London by King Charles XII. In the year 1710 I began my travels, first into England, and afterwards into Holland, France,
and

and Germany, and returned home in 1714. In the year 1716, and afterwards, I frequently conversed with Charles XII. King of Sweden, who was pleased to bestow on me a large share of his favour, and in that year appointed me to the office of Assessor in the Metallic College, in which office I continued from that time till the year 1747, when I quitted the office, but still retain the salary annexed to it as an appointment for life. The reason of my withdrawing from the business of that employment was, that I might be more at liberty to apply myself to that new function to which the Lord had called me. About this time a place of higher dignity in the state was offered me, which I declined to accept, lest it should prove a snare to me. In 1719, I was ennobled by Queen Ulrica Eleonora, and named *Swedenborg*; from which time I have taken my seat with the Nobles of the Equestrian Order, in the Triennial Assemblies of the States. I am a Fellow, by invitation, of the Royal Academy of Sciences at Stockholm, but have never desired to be of any other community, as I belong to the Society of Angels, in which things spiritual and heavenly are the only subjects of discourse and entertainment; whereas in our literary societies the attention is wholly taken up with things relating to the body and this world. In the year 1734 I published the *Regnum Minerale*, at Leipzig, in three volumes, folio; and in 1738 I took a journey into Italy, and staid a year at Venice and Rome.

With respect to my family connections; I had four sisters; one of them was married to Erick Benzelius, afterwards promoted to the Archbishopric of Upsal; and thus I became related to the two succeeding Archbishops of that see, both named Benzelius, and younger brothers of the former. Another of my sisters was married to Lars Benzelstierna, who was promoted to a provincial government, but these are both dead; however, two bishops, who are related to me, are still living; one of them is named Filenius, Bishop of Ostrogothia, who now officiates as President of the Ecclesiastical Order in the General Assembly at Stockholm, in the room of the Archbishop, who is infirm; he married the daughter of my sister; the other, who is named Benzelstierna, Bishop of Westermannia and Dalecarlia, is the son of my second sister; not to mention others of my family who are dignified. I converse freely, and am in friendship, with all the bishops of my country, which are ten in number, and also with the sixteen senators, and the rest of the grantees, who love and honour me, as knowing that I am in fellowship with angels. The king and queen themselves, as also the three princes their sons, shew me all kind countenance; and I was once invited to eat with the king and queen at their table, (an honour granted only to the

peers of the realm,) and likewise since with the hereditary prince. All in my own country wish for my return home; so far am I from the least danger of persecution there, as you seem to apprehend, and are also so kindly solicitous to provide against; and, should any thing of that kind befall me elsewhere, it will give me no concern.

Whatever of worldly honour and advantage may appear to be in the things before-mentioned, I hold them as matters of low estimation, when compared to the honour of that sacred office to which the Lord himself hath called me, who was graciously pleased to manifest himself to me, his unworthy servant, in a personal appearance in the year 1743; to open in me a sight of the spiritual world, and to enable me to converse with spirits and angels; and this privilege has been continued to me to this day. From that time I began to print and publish various unknown *arcana*, that have been either seen by me, or revealed to me, concerning heaven and hell; the state of men after death; the true worship of God; the spiritual sense of the Scriptures; and many other important truths tending to salvation and true wisdom: and that mankind might receive benefit from these communications, was the only motive which has induced me at different times to leave my home to visit other countries. As to this world's wealth, I have sufficient, and more I neither seek nor wish for.

Your letter has drawn the mention of these things from me, in case, as you say, they may be a means to prevent or remove any false judgment or wrong prejudices with regard to my personal circumstances.--Farewel; and I heartily wish you prosperity both in things spiritual and temporal, of which I make no doubt, if so be you go on to pray to our Lord, and to set him always before you.

London, 1769.

EMAN. SWEDENBORG.

Upon the horoscope of this eminent person there are four planets essentially dignified, viz. Saturn, lord of the ascendant; the Moon, lady of the seventh; Mercury, lord of the fifth and eighth; and Mars, lord of the third and tenth; with Jupiter on the ascendant. These are infallible testimonies not only of an high and exalted mind and character, but are proofs of a devout and exemplary life. Venus and the Sun appear to give but little of their qualities in the temperature and constitution of the native; first, because the Sun is fixed in his detriment upon the cusp of the ascendant; and, secondly, because Venus is posited out of all her fortitudes and dignities; and hence we find no trait in
the

the life and actions of the native, which describes his having formed any connection with the softer sex, or been at any time stimulated with these unconquerable desires for connubial enjoyments, which those only who have Venus strongly dignified in their genitures are qualified to explain.

Upon the ascendant we find sixteen degrees of the tropical sign Capricorn, with Jupiter's benign aspect located therein. This denotes rosy health, and uninterrupted prosperity to the native. It is the emblem of dignity, an infallible argument of esteem, and a ground of lasting reputation to the end of his days. And we need no further evidence than the foregoing well-authenticated narrative of his own life, to convince us of the full completion of all that these fortunate beams had promised.

We must not, however, forget to remark, that as Jupiter hath his fall in Capricorn, so it denotes likewise that the native shall feel some occasional indignities from the opposition of persons discordant to his own opinions and doctrine, who, in the very midst of the honour and favour he is receiving from eminent and royal personages, will insult him with personal reflections and poignant satire. This, I have no doubt, was a thousand times verified, in almost every stage of his life, by those who considered Baron Swedenborg superior to themselves, either in favour or abilities, or who supposed him touched with insanity, among which class there are more to be numbered in this island than in any other part of the globe.

The active planet Mercury we find likewise in the ascendant, approaching his own triplicity in the sign Aquaries. The influx of this planet's beams, and the effect of their predominant mixture with the qualities of the other planets, in forming the intellectual part of man, has been already sufficiently explained. In the present case, it is evident, that this position of Mercury gives to the native an acute and penetrating genius, a sharp and ready wit, with a mind apt for the sciences. And, when we add to these considerations, that Saturn is lord of the ascendant, in his exaltation, and beholding the ascendant with triangular beams, at the same time that the Sun, the prince over the planetary system, beholds Saturn with a trine also, we shall not be surprised to find this native possessed of a most comprehensive and elaborate understanding, fraught with the strongest and sublimest ideas. Indeed I am ready to confess, that out of all the long catalogue of nativities I have hitherto inspected, I never found the planet Saturn so properly configured.

purated to give an enlarged mind, nor the other significators at the same time so happily correspondent therewith, as in the geniture now under consideration. How far this ability has been established and confirmed in the person of the native, let his attempts to pry into the depths of internal Nature, and to solve the visions of the Deity, determine for him.

But as there can be no eminent portion of good in this world since the fall, without some intermixture of evil; so in this nativity, notwithstanding its eminent designation, and the high and important benefits promised by it in the scale of human acquirements, still we shall find a certain portion of malefic influence, of imperfection and misfortune, whereby the seeds of discontent and death are nourished up, until they become predominant over all the powers and functions of our nature. Of this tendency is the baneful opposition of Saturn and Mars; an aspect which operated with uncommon strength and duration, both upon the mental and bodily functions of the native, giving him the most extraordinary enthusiastic flights of imagination, and exposing him to the censure of the learned, as well as of the illiterate, who charged him with exorcism and madness. But let me here embrace the opportunity of assuring those who have taken up this idea, that there are not the smallest traces of insanity to be found in any part of this geniture. The native is perfectly sound, and singularly competent, in his understanding; but, like the man who pursues the longitude, or the philosopher's stone, beyond the beaten track of other adventurers, and is elated in proportion to the new lights he receives, or the hopes he forms of surpassing every other competitor, precisely by the same ratio will the world measure his wits, and decide upon the competency of his understanding and the soundness of his brain.

We have before seen, that the native's mind was by no means formed for society; for the beginning of all our desires for community with others must be naturally founded in our love of intercourse with the female sex. The native never knew a predilection of the kind, but felt himself happiest in the uninterrupted contemplation of his own ideas; and to such a pitch has he indulged himself in this particular, that he has remained shut up in his private chamber for two, three, and four, days together, without admitting any person to make his bed, or even to rap at his door. This uncommon disposition can only be accounted for by the position of Saturn, so remarkably elevated, at the same time that both the luminaries are under the earth, which gives a strong and invariable propensity to the native to lead a single solitary life.

To

To this grave and solitary turn we are to attribute his early acquaintance and familiarity with spirits. He has been often heard, in houses where he lodged during his abode in London, for whole nights together, in conversation with these missionary beings, who become visible to those only that have resolution to devote the whole of their time and attention to a community with them. How far Baron Swedenborg has benefited society and himself, by the intercourse he has had with them, let his several publications, now in universal sale, determine for him. The question is too delicate and abstruse even for an *astrologer* to decide upon ; and it is a morsel which even the *critics* nibble at with unusual precaution, lest they should be found *biting at a file*.

It has been a subject of dispute, whether the spirits, with which Swedenborg had familiarity, were good or evil. For my own part, I have no difficulty in deciding, from the constitution of the planets in his geniture, that he had community with both ; which I believe to have been the case with every person since the days of Adam, who has had familiarity with spirits. Indeed Swedenborg himself tells us, that a certain species of the infernal spirits would at times intrude themselves upon him ; but that he was always preserved, by the goodness of the Lord, from these insidious deceivers of men ; whose malice and enmity towards us is so great, that, were it not for the watchful care and protection afforded us by the clemency of God through the medium of the good genii, or lower order of the angelic host, it would be utterly impossible for man to deliver himself from the power of hell and the craft of the devil. But I shall defer entering upon an elucidation of this subject, until I come to treat of Spirits, in the magical part of this work, where Baron Swedenborg's intercourse with them will be completely investigated.

I shall next consider the significators of the temper and disposition of this native, to shew how far his general deportment corresponded with them. As we find Jupiter, Mercury, and the Sun in his ascendant, and the Moon at the same time beholding that important angle with triangular rays, it is evident the temper and disposition of the man must be formed from a due mixture of their influxive qualities, each of which would prove visibly predominant, as they alternately came to act through the medium of their respective directions. Exactly so we find the native agitated and impressed. At one time his exterior would be uncommonly pious and devout, exhorting all men, who came within the reach of his voice, to humility, charity, and repentance. At another time he would totally seclude himself from all company, shut

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himself up for whole days together, and observe so solemn and profound a silence, as not even to give an answer when spoken to. Yet at other times he would enter into conversation with the utmost vivacity and sprightliness, and continue for a long time together in this communicative humour; but always in a stile and manner remarkably elevated and majestic.

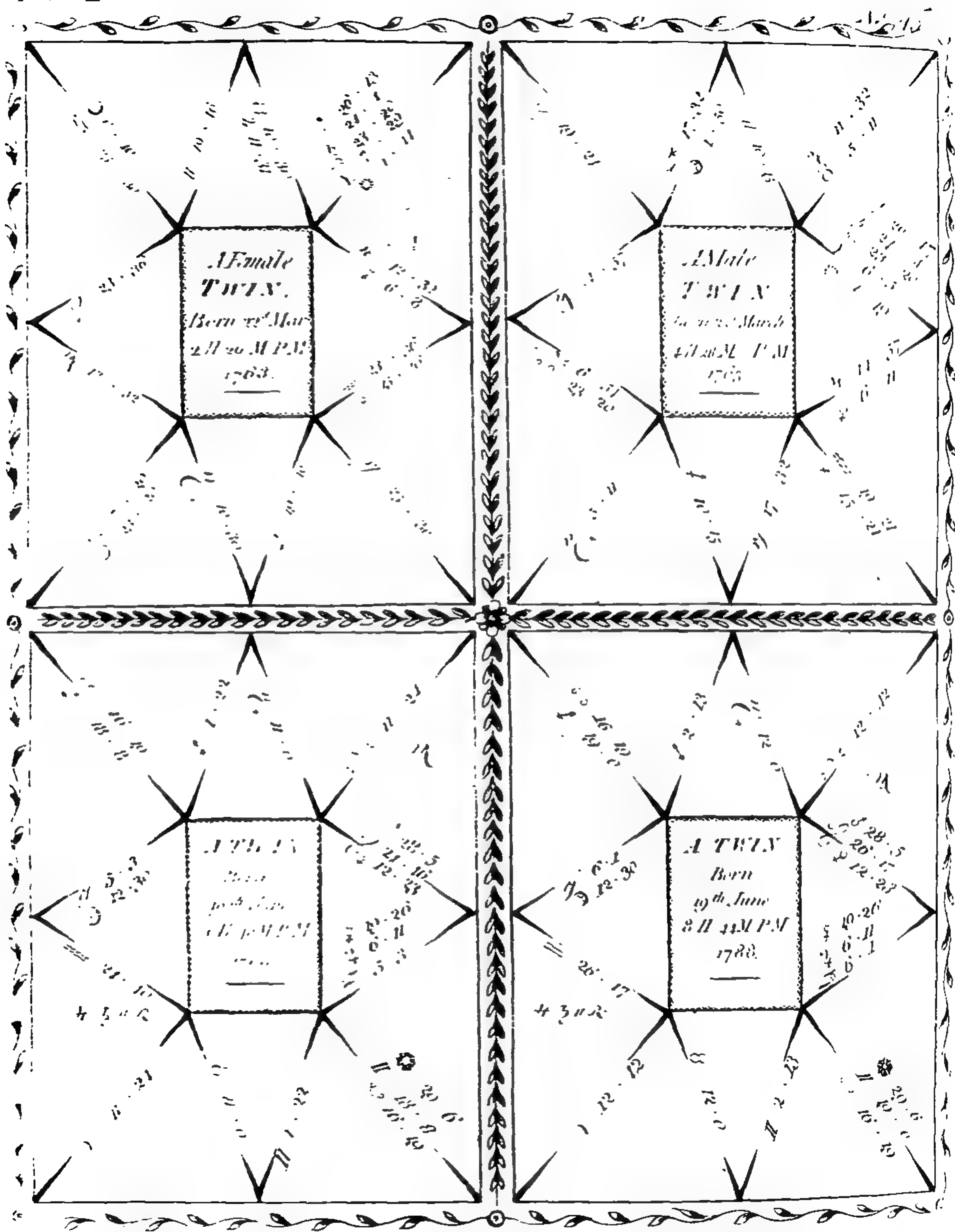
The reason of all this is abundantly obvious from the face of his horoscope. The superior planets being posited in his ascendant, in their full dignities, and consequently in their greatest influence and energy, acted upon the temperature both of his mind and body, as they respectively came up by direction, with uncommon force and power, whence the affections of his mind, his words, his actions, and every motion of his frame, were wound up to an uncommon degree, and distinguished themselves accordingly.

It will be readily seen, by any persons acquainted with his disposition and character, that the same general turn of temper and conduct was uniformly supported throughout the whole of his life, which might fairly be ranked amongst those of remarkable longevity. And it may be seen, by any person who will take the pains to equate the directions of those superior aspects, that they operated by alternate succession with equal force and influence, until the direction of death extirpated the co-incidence of their beams.

The natural cause of dissolution in the temperament and constitution of Baron Swedenborg, was, as may be seen by the geniture, a decay of vital heat, occasioned by a redundancy of cold rheum, accompanied with the bloody flux. The direction under which he died, was the Sun to a partile conjunction with the body of the Moon, taken under the pole of the Sun. The pole of the Sun is fifty-one degrees; the latitude of the Moon is one degree one minute north; then, by taking the oblique ascension of the Sun, and the oblique ascension of the Moon, the arch of direction will be fixed at eighty degrees seventeen minutes.

If we equate this arch or track of the aphetical and anaretical stars, by the rules heretofore laid down, we shall find it gives the space of life to be eighty-six years and near two months, at which time the native emerged from this world into a world of spirits, namely, on the 19th day of March, 1772.

CONSIDER-



A Female
TWIX.

Born 22nd Mar
2 11 20 A.M.
1783.

A Male
TWIX.

Born 22nd March
4 11 20 A.M.
1783.

A TWIX

Born
10th June
11 11 21 A.M.
1783.

A TWIX

Born
19th June
8 11 21 A.M.
1783.

CONSIDERATIONS on the NATIVITIES of FOUR TWINS,
whose Genitures are displayed in the annexed Plate.

These four Twins were the produce of two births. The first birth consisted of a male and a female, who were brought into the world nearly together; from which circumstance the reader would naturally infer, that the influx of the stars must have been the same on both of them; and, consequently, that the duration of life, with its incidents and events, were inseparable from each other. This not being the case, however, I shall proceed to account for it, upon the true principles and grounds of this science. And first of

The F E M A L E T W I N.

This child was born precisely at the time specified in the plate. Leo ascends the oriental horizon, and consequently the Sun is lord of the ascendant; but being in the eighth house, the house of death, is an infallible argument of a short life. The Moon, being in an aphetical place, is the giver of life; but shews the destruction of it, by forming a quartile aspect with the Sun in the house of death. No stronger evidence of an immediate death can well be adduced; for, since the Sun is author of vital heat, and the Moon of radical moisture, and both of them at once deprived, by malefic rays and cadent positions, from affording a fit and due proportion of those nourishing qualities, it is impossible that life should be longer sustained than during the time this unfortunate aspect was forming.

It might be contended, that the position of the benevolent planet Jupiter in the medium cœli, or tenth house, is highly favourable to the preservation of the child. But, when it is considered that this planet has no aspect with the luminaries, that its beams are only reflected into itself, and that all communications with the ascendant and significators of life and death are cut off, we shall find that this eligible position of the benign Jupiter is in the present case totally without the power of communicating the least aid to the functions of life, or of mitigating or lessening the malevolent effects of the anaretical influence.

A further proof of this child's dissolution arises from the Moon's position in the terms of Mars, at the same time that his fiery intemperate beams are conjoined with the worst irradiations of the cold planet Saturn, and thereby act upon the constitution with violent opposite extremes.

meres. We find also that both the Sun and Saturn are disposed of by Mars; to whose superior influence Mercury bends, who, with the Moon, nourishes and protects the brain. Hence it is obvious that the child should die in its infant state, partly from the want of natural stamina and strength, and partly from the effects of a cold succeeded by a fever; and that this cold should be of the moist kind appears from the triangular rays of Mercury and the Moon in the watery sign Pisces. The child only lived until the quartile aspect of the Sun and Moon was completely formed, when the weakness and debility of its body and lungs gave way to the convulsive agitations of the whooping cough, succeeded by cold chills and fever, the immediate effects of the configuration of Saturn and Mars; so that nothing less than a supernatural cause, which we justly call a miracle, could possibly have saved this child's life. I shall next consider the little offspring which accompanied it, and this was

A M A L E T W I N.

This child came into the world only about two hours after the former, and yet it is not subject to the same fate. The Moon is prorogator in this nativity, as well as in the other; but with this remarkable difference, that both the luminaries are going from aspects of affliction, instead of approaching to them. The Sun is entering into the seventh house, promising vital heat and strength, while the Moon, just separated from a noxious quartile, gives testimony to it, by affording due proportion of health and nourishment, being located in her own house in the sign Cancer. So that, considering the newly-acquired strength of the Moon, and the position of the Sun in a sign of his own exaltation, emerging from quadrangular beams of affliction, we are afforded the most satisfactory evidence of a sound and perfect constitution in the temperature of this native, with sufficient testimonies to ensure health and longevity.

The varied positions of the other significators afford us additional reasons, of a very strong and decisive nature, why this Twin should live to years of maturity, while its little companion should scarcely be permitted to see the light of this world. The conceptional arrangement describes the superior strength of this child in the womb, and declares it to have drawn to itself a considerable part of that nourishment which should have fallen to the share of its sister.

As therefore the position of the luminaries in the other birth declared a short life, so in this they afford equal testimonies of longevity; and
confe-

consequently the cause of death will be sought from different speculation ; for, though the Moon be giver of life, the cause of death will be different. In this nativity Saturn is the anaretical planet, and the native will in all probability be carried into the other world by the dropsy. He will live until the Moon's body forms a mundane quartile aspect with Saturn and Mars ; at which time, according to natural causes, his thread of life will be cut in twain—when his body will return back to the earth, and be re-incorporated with the elements, while his ethereal or essential part mixes with that tormented or blessed class of spirits to which the complexion of his conduct here shall recommend him hereafter. The youth is living, and I hope will draw a friendly admonition from these premises.

Of TWINS born immediately together.

The genitures of these Twins are displayed in the lower part of the same plate. The one was born on the 19th of June, 8h. 40m. P. M. or afternoon, and the other at only 8h. 42m. of the same day. The difference of time is therefore only two minutes ; which admits of so little variation in the positions of the planets, and in the coincidence of their beams, either in respect to the angles of the figure, or to the temperature of the ambient matter, that each Twin must of necessity share the same fate, in all the important considerations attending the issues of life and death.

To establish this fact, we need only contemplate the horoscope, and compare it with the circumstances of the genitures we have just dismissed, whereby it will be seen, that the difference of two hours has most essentially varied the impressions of the significators at the time of birth in the former horoscope ; while, in the present case, no such distinction can be found ; and consequently, the effects of the elementary matter being the same, and the beams of the stars falling in the same direction, and with equal force, cannot afflict one infant without the other feeling the same affection ; not instantaneously, but in a space of time precisely equal to that in which the planetary system moves in two minutes. This I have observed in a variety of instances ; and it is to this very remarkable circumstance that the common notion of mankind relative to Twins, that, *when one is taken ill and expires, the other will soon follow*, has obtained so much confidence in every part of the universe ; though we have seen, in the foregoing geniture, that this happens only where Twins are born immediately together, and not where any considerable time intervenes between their birth, unless the consti-

tution of the stars should be so configured as to continue the same benefic or malefic influence during the whole of that space of time; which rarely happens, owing to the difference of velocity in each respective planet, and the accidental circumstances of their becoming retrograde or stationary.

To determine the fate of these Twins, we have only to consider the positions of the luminaries with the aspects of the erratic stars, and it will be evident that their existence can be but of very short duration, and is determined by the motion of the *primum mobile*; for, when Mars came to the opposite point of the Moon, which in these genitures is *giver of life*, it is apparent they would die. This was exactly verified; Mars came to the first anaretical point in two hours, and to the second in two hours and an half; and the children accordingly died within half an hour of each other, and within two hours and an half of the time of their birth.

But, to shew that life could not be prolonged in either of these infants, we will take a further view of their genitures. The Moon, we find, is in her detriment, disposed of by the malignant planet Saturn, within the rays of an opposition of Jupiter and Mercury, who become subservient thereby to the affliction of that ponderous malefic. The Sun is going down under the affliction of Mars, disposed of by Mercury, in houses cadent and naturally evil; whereby every thing born under their influence is deprived of vital heat and nourishment. The Moon's position, likewise, in the phasis of Mars and terms of Mercury, much strengthens this judgement; besides, Mars is dignified in his own terms, while the Sun is received in the terms of Mars, as well as of Jupiter; so that four planets out of seven are in the dignities of his malefic influence, and partake of his temperature. These are all testimonies of a short life, and, falling so immediately together, render the space of life of a still less duration.

But, had it been possible for these Twins to have out-lived the elementary influx of these destructive configurations, still they would have died shortly after they had passed their infancy, under the anaretical affliction of the Sun directed to the oppositional rays of the Moon, who, being giver of life, would have had her vegetive strength and virtue totally absorbed by him, whereby vital heat and animal pulsation must have totally subsided.

And

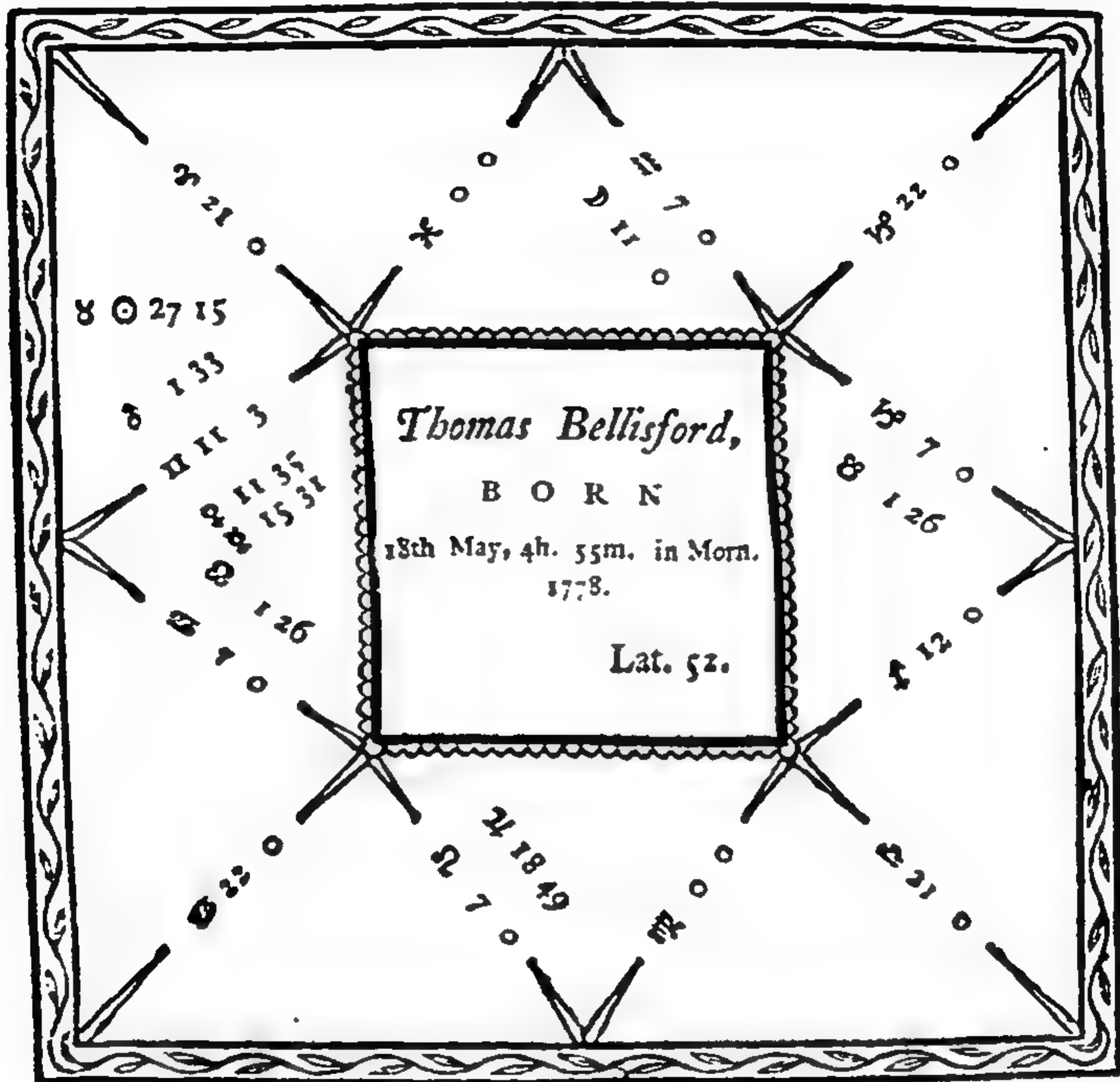
And here we deduce a cause most obvious to the senses, and strictly conformable to the laws of nature, why the anaretical influence is sometimes baffled by the superior strength of the native's constitution, assisted by the rays of aphetic stars, whereby the disease or accident is baffled, though death were pronounced inevitable, both by physicians and friends ; so that, when the anaretic influence is thus overcome, the patient acquires immediate strength and spirits, eats and sleeps, and recovers his health and vigour in so surprising a manner, that the physician is cried up to the skies, as *the finest man in the world*, at the very moment when he himself is as much at a loss to account for the cause as the most ignorant of his panegyrists.

Thus it happens in many genitures, and requires the aid of reason and philosophical acquirements to decide positively on the effects of configurations which involve so much doubt, and appear equally undecisive in point of life or death, though obvious and certain as to the violence of the disease or accident whereby the native shall be afflicted.

The surest way of forming our judgment in these cases, is to direct the aspects of the stars which bear principal rule in the hylegiacal and anaretical places of the horoscope, far beyond the æra of such undecisive malignant influx, at least till another death-like configuration is formed by them ; and, if this appears the most strong and powerful in favour of the killing rays of the anareta, it will generally be found that absolute death will not happen to the native until the second congress of these important significators is completed in the heavens, notwithstanding the danger threatened by them in their first configuration may make it next to a miracle that the native escapes with his life

AN ILLUSTRATION
OF GIGANTIC STATUE.

The following figure exhibits the geniture of a Child born with six fingers on each hand, and six toes on each foot, and those double-jointed.



Latitude of the Planets.

♂	North	2	35
♂	North	1	1
♂	North	0	19
♂	North	0	30
♂	North	1	10
♂	South	3	55

This

This nativity is of a very rare kind, affording an eminent example of the effect of prolific configurations, where only one fœtus is produced under the nutritive qualities nature had intended for two. The position of the luminaries here, in signs fruitful and obeying, with nearly all the planets under the earth, give the most demonstrable proofs of large and high stature, that can well be adduced; but the additional fingers and toes result from the fecundity of four-footed signs, occupying the angles of the figure, at the same time that the luminaries are superior to all the other planets, whose regulating influence in this nativity is totally withheld.

The Sun being in the twelfth house, and in degrees encreasing fortune, shews that the native shall thrive in the world by the rarity of his parts; and so it has in some measure already happened, and will in a much more eminent manner hereafter, as this youth encreases in bulk and stature. He has now been shewn as a natural curiosity for some years, and a great deal of money has been accumulated by that means.

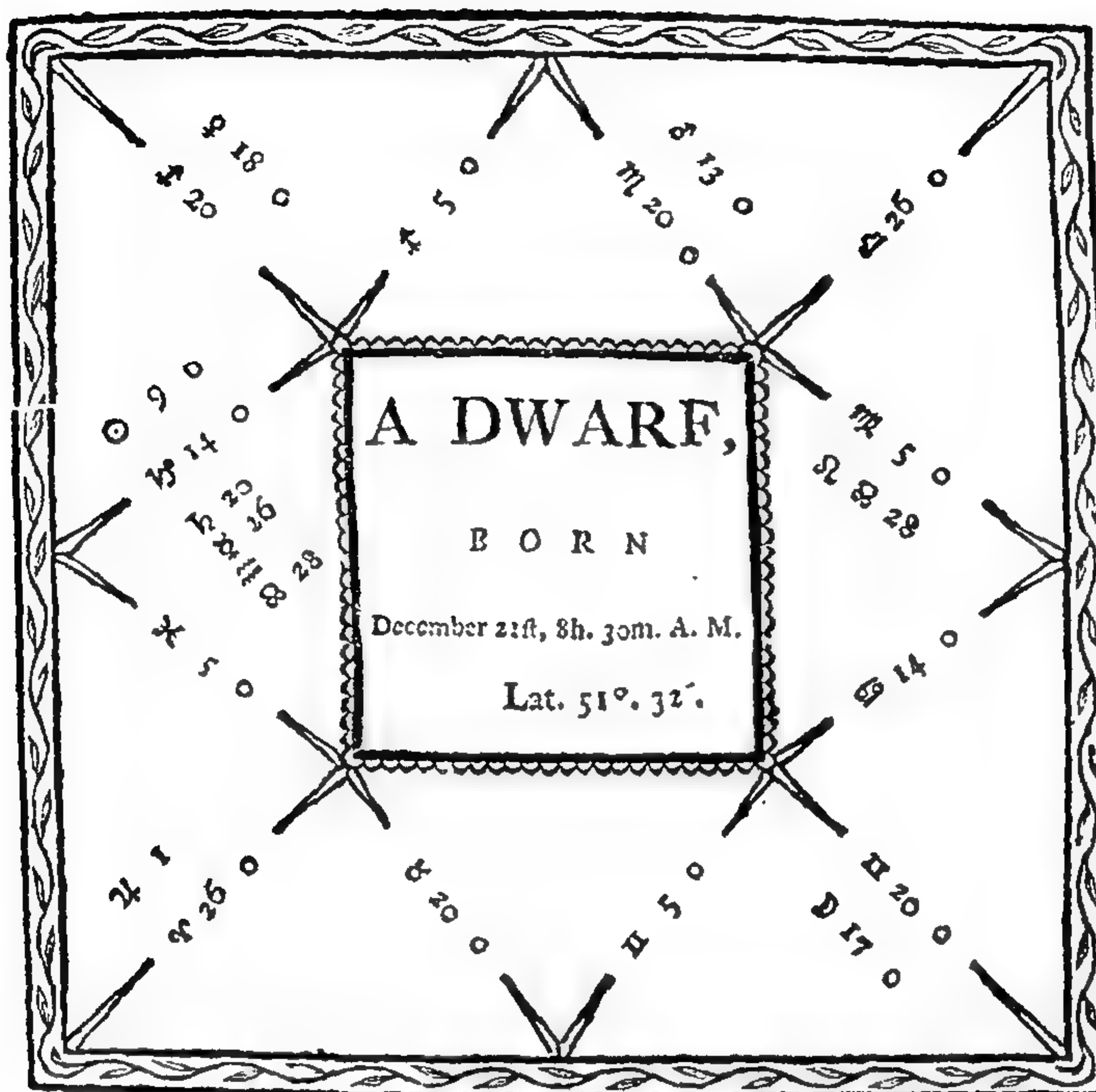
We have, in the introductory part, already shewn the radical cause of this super-abundance of nature in its formulary operation; and in this figure those rules are completely verified. For neither the superior nor inferior planets having dignities in the ascendant or medium coeli, nor aspect therewith, and the principal light of time being in the twelfth house, with the Moon in the mid-heaven, and in the signs Gemini, Sagittarius, or Pisces, in azimene degrees, is a demonstrable proof that what is then born shall exceed the common line of nature, and be either monstrously misshapen, or above the common bulk of mankind. In the present case we find both has happened, as well in the excess of members as in the muscular proportion and altitude.

According to the same mixture and quality of the formative matter, we find similar conceptions take place, whenever Saturn afflicts the Moon in an angle possessed by beast-like or double-bodied signs, with the Sun's superior beams increased by signs of long ascension, and carried to the same point by sextile or triangular rays. Under such a synod of planetary significators, gigantic stature, or inconceivable corpulency, is sure to take place. Indeed I have been confidently informed, by a gentleman who had for many years made Astrology his amusement, that this was nearly the position of the heavens, in the genethliacal figure of the much-celebrated Mr. Bright, so famed for his corpulency and stature.

Again, whenever the ascendant, Sun, or Moon, at the time of conception, is afflicted in the obscure parts of the figure by Saturn, and in signs double-bodied, beast-like, and prolific, excess of parts and stature will be produced, either general, as to the whole body, or else in those particular parts only which are under the government of the signs respectively occupying the ascendant and midheaven. But, to ascertain these circumstances with due precision, we must erect the conceptional figure of every nativity, to discover the tendency and influence of the formative virtue in the earliest state of the embryo.

It may also be remarked, that monstrosity in brutes originates from the same cause; and, as they are deprived of the functions of reason, it is plain the planetary influx acts with greater force upon them; and more frequently produces this surprising effect.

The GENITURE of a DWARF.



Latitude of the Planets.

♄	0	40	North.
♄	1	43	South.
♄	0	33	North.
♄	1	59	North.
♄	2	11	South.
♄	4	50	South.

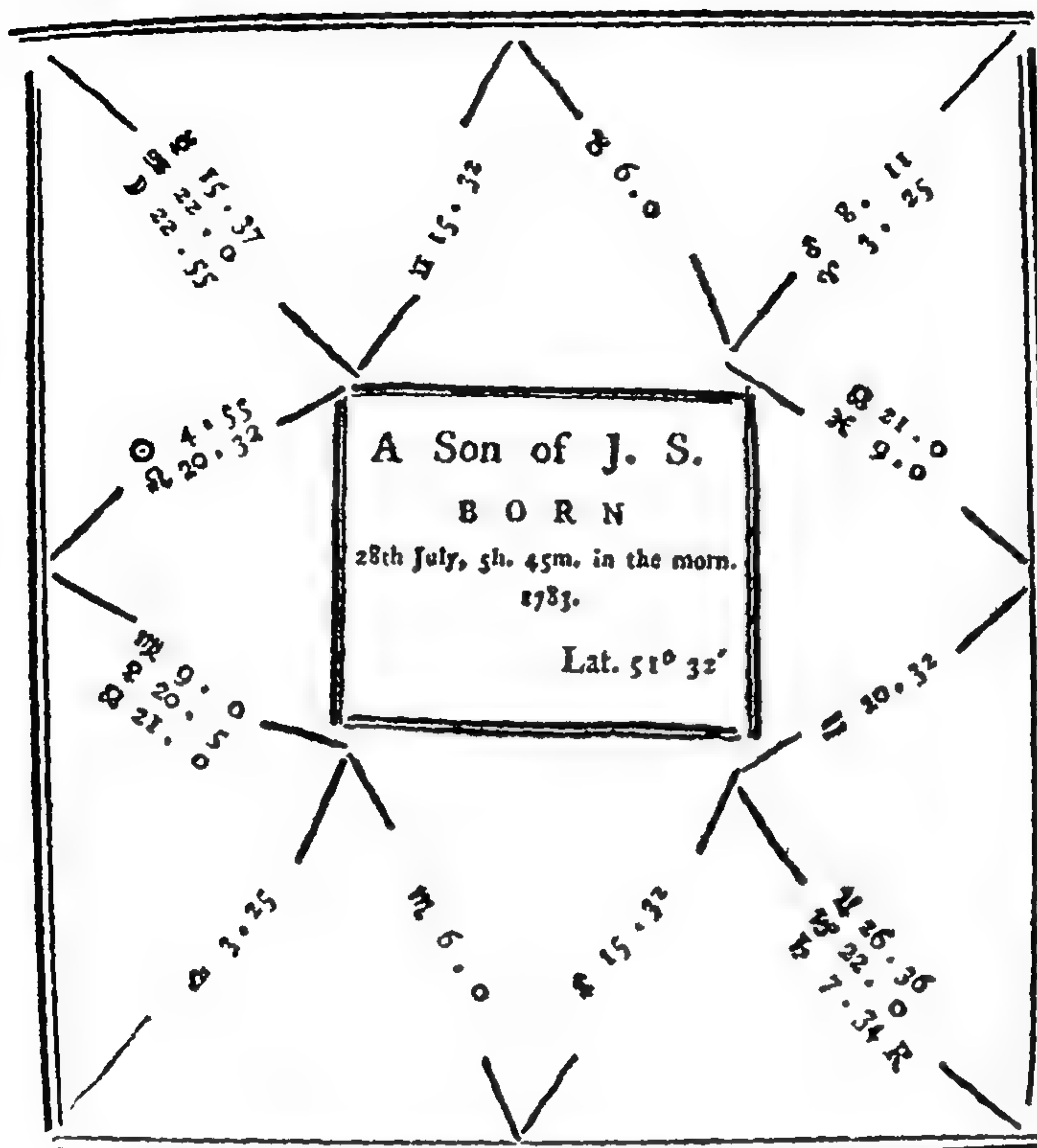
In this nativity Capricorn, a sign of brevity, ascends the horoscope, and Saturn, being lord thereof, by his cold and dry nature, opposes the nutritive power of the Moon, which, being in an abject place under the earth, can afford no nourishment. This effect is produced through the medium of Mercury, who, being in conjunction with Saturn, disposes of the Moon, and participates in the qualities both of Capricorn and Saturn

Saturn. Mercury at best gives but a small stature ; but, configured with these rays, he contributes all his influence to check the growth and nourishment of whatever is conceived under it.

It is here likewise a most remarkable circumstance, that Mars, from a sign of brevity, beholds the Sun by a sextile ray, posited also in a sign of brevity, so that the signs occupying the principal angles in this geniture are precisely of an opposite quality and influence with those in the last figure, and consequently have a tendency and effect diametrically opposite thereto. And so indeed we find it ; for this native, instead of exceeding the common size and stature of man, will never grow to the height of four feet, nor possess limbs nor parts larger than the common run of boys of seven years old.

An additional testimony in favour of this opinion is the quartile aspect of Jupiter and the Sun from brevitous signs, which usually demonstrate the conception of a Dwarf. But indeed it is an universal maxim in this science, that whoever hath an earthy sign ascending the horizon of his nativity, with two or three planets posited therein, will certainly be but of low stature, particularly if Saturn be located amongst them ; for a cold and dry temperature, excluded from the heat and moisture of the two luminaries, is contrary to the natural growth of any thing, as we may see by the state of vegetation in the autumnal equinox.

Of a SHORT LIFE, or EMBRYO not nourished.



Latitude of the Planets.

♂	2	34	North.
♂	0	38	South.
♂	4	20	South:
♀	0	15	North.
♂	1	40	South.
♂	4	15	North:

In this figure we find both the Sun and Moon, the two great luminaries, one the author of vital heat and motion, the other of radical nourishment and moisture, both posited in conjunction in the twelfth house, which is the mansion of the *evil demon*, and shews the immediate termination of whatever is generated under it. Besides this, we find Jupiter, lord of the house of death, in opposition with the Moon;

No. 42.

9 Y

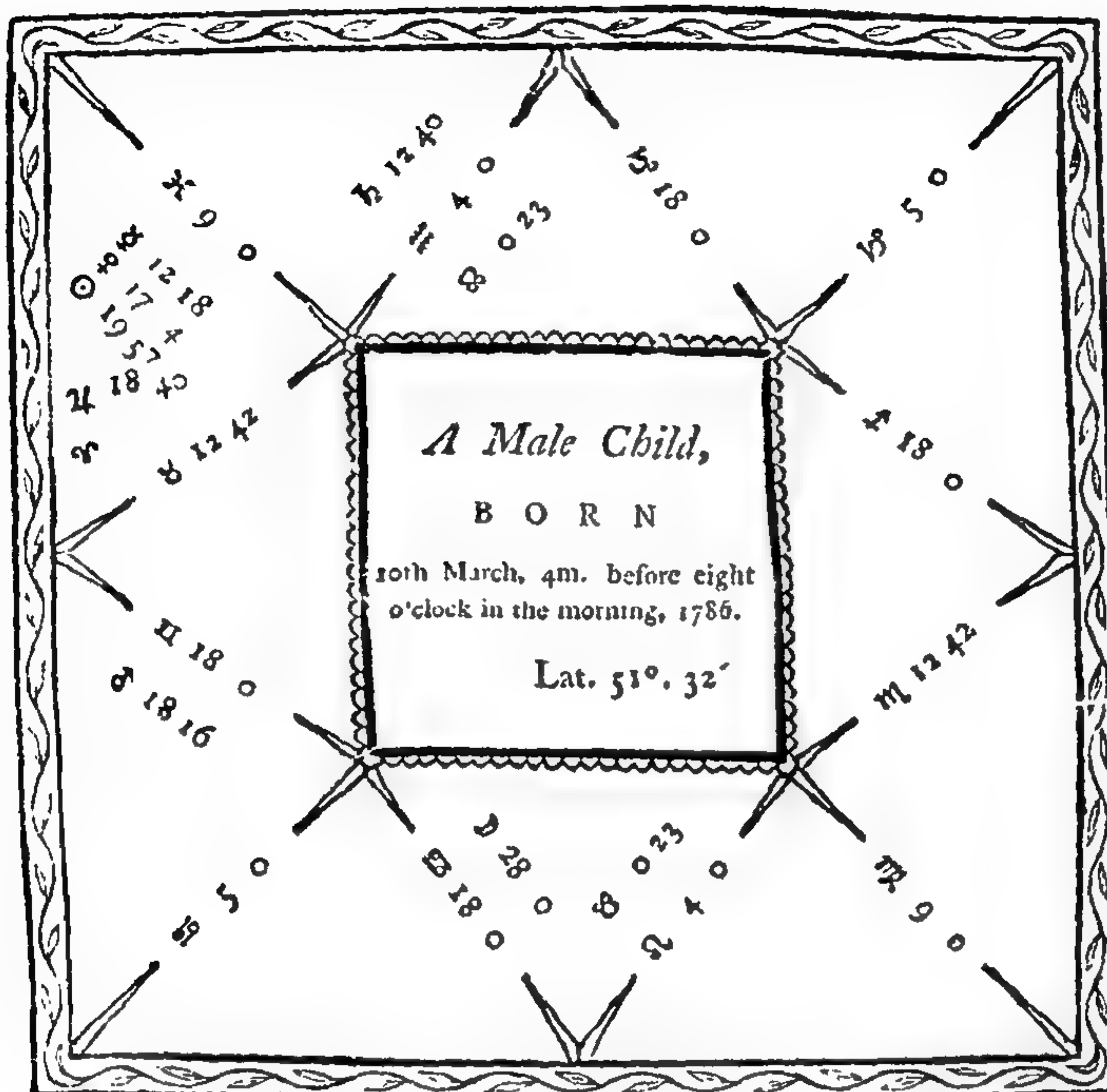
and

and Mars, who beholds the Sun with triangular beams, hath the vivifying quality obtained thereby totally destroyed by the pernicious quartile configurations with Saturn, lord of the sixth house.

These qualities and temperatures of the planets demonstrably shew, that the embryo in its original formation was void of stamina, and that the nourishment, during its continuance in its mother's womb, was scarcely sufficient to sustain life. It is evidently born without any particular accident or indisposition; and yet it is as plain that it cannot long survive the day of its birth; and the reason is, because the digestive and expulsive faculties, the motion of the lungs, and the vibration of the heart, have not sufficient strength or stamina to perform their respective functions, and the moment the stomach comes to be surcharged with food beyond its digestive power, the infant will be seized with spasms, and die almost instantaneously, nearly in the same manner as though it were suffocated.

I cast this nativity soon after the child was born, and prepared the mind of its mother to meet its loss with resignation and submission to the will of God and nature. The space of life will be seen, by taking the distance of the Moon from that precise point in the heavens which forms an opposition with Jupiter, lord of the house of death. This gives, by the solar motion, about four days; and the child died exactly in the way I had described, on the first of August following, which is four days from its birth.

Another EMBRYO not nourished.



Latitude of the Planets.

h	0	41	South:
u	1	6	South.
8	2	6	North.
2	1	26	South.
8	2	0	South.
u	2	25	North.

This geniture is of much the same quality of the former, but the position of the horoscope at the time of birth is much more remarkable, having so many planets in the twelfth house. This is in all cases an unfortunate omen, but particularly in the present, where no one friendly ray can be found to oppose their influence. On the contrary, we find Mars in the second house, afflicting these stars with a quartile irradiation,

tion, having dignities at the same time in the twelfth ; which is a powerful argument not only of certain death, but rather of an immediate and violent nature. Jupiter being lord of the eighth house, is in sextile with Mars, and both of them are lords of the twelfth. Venus, lady of the ascendant, is besieged by Mercury, lord of the sixth, and the Sun, the only light of time, and the Moon, lady of the fourth, afford neither nourishment nor assistance, whereby conception could be strengthened, or the functions of life sufficiently formed.

In the conceptional figure of this infant, both the luminaries are afflicted in angles, by the noxious rays of the malefics, whereby stamina is denied, and proper nourishment entirely prevented from reaching the vital parts of the body. This may be seen, by comparing the figure with those rules heretofore laid down in the former part of this work ; from whence the attentive reader will be sufficiently enabled to perceive, that the duration of this child after its birth could not exceed more than four days ; at which time it was seized with convulsions at the breast, and died in the greatest agonies.

Many other nativities might be adduced, of this and the like kind, to shew the obvious power and agency of the superior world, in forming earthly Man, who is an epitome of the whole system, and “wonderfully and fearfully made,” partaking of all its essence and parts, and comprising the fair image of the Deity. But surely, after the facts that have been established, and the examples we have given, in almost every state and contingency of human nature, it can answer no good purpose to multiply these instances of astral influence and prediction, particularly to minds that are wilfully deaf to reason and argument, and who obstinately shut out the light of heaven, lest it should irradiate their understanding, and convince them they are but men of low and humble conceptions, in no shape qualified to determine the pathless ways of God, or to measure the extent of his omnipotence.

CONSIDERATIONS *on a QUESTION of MARRIAGE, deduced from the NATIVITIES of the contracting PARTIES, and confirmed by an horoscopical Figure of the Heavens, at the precise Time of celebrating the Nuptials.*

Much has been said on the subject of Matrimony ; and it must be confessed, that the importance of the contract, and the great end of our existence being involved in it, as well as the sublunary happiness or misery of the greatest part of God's children upon earth, renders it a
subject

subject of the first magnitude, in which the hands and hearts of both sexes, of all ages and degrees, are with one consent united. I therefore consider myself in some respects bound to state the present question, as an example whereby to render this enquiry facile and easy to such of my readers as chuse to employ their leisure hours in this speculation.

The circumstances of this marriage came under my own immediate cognizance and observation; and they are such as, I trust, will operate as a caution to every single person, not to enter into that holy state from mere motives of advantage or convenience, when love is confessedly wanting on the side of either of the parties. But cautions now-a-days are out of date; and the admonition of friendship is regarded only as the subtil declamation of hypocrisy, or the busy officiousness of a marplot.

The lady, who is the subject of the present question, came to obtain my opinion and advice how far the present marriage would prove advantageous and happy. Confessing, at the same time, that she had no great regard for the old gentleman. I stopped her, as is always my custom, from entering into particulars, and desired her only to furnish me with the exact time of her own nativity. I so procured me, if possible, that of the party to whom she was engaged. This was complied with, and I drew my judgment accordingly.

Upon comparing the radical constitution of the two genitures, I could not find a single configuration in the one that bore the least harmony or similitude with the other. The benefic stars in the angles of one figure were opposed by the malefics in the angles of the other. The *masculine* temperature was strongest in the female horoscope, with the Moon and Mercury in good aspect in the fifth house; while, in the man's geniture, the effeminacy of *female* influence was but too apparent, with the mortifying testimony of Saturn, lord of the ascendant, in opposition to Mars, the lord of the fifth, and the Moon afflicted in a cadent house.

The places of marriage in both figures were occupied with the lesser infortunes, but not discordant; neither were they harmonized by a single ray of benefic influence. I therefore saw the probability of marriage taking place betwixt them, at the same time that the warm passions of the woman rendered it impossible for her to be happy in the arms of a cold, frigid, aged, barren, and almost impotent, husband. I clearly saw avarice had a share in her composition, and that the hope of advantage supplied the place of connubial affection. This I detected, and condemned as

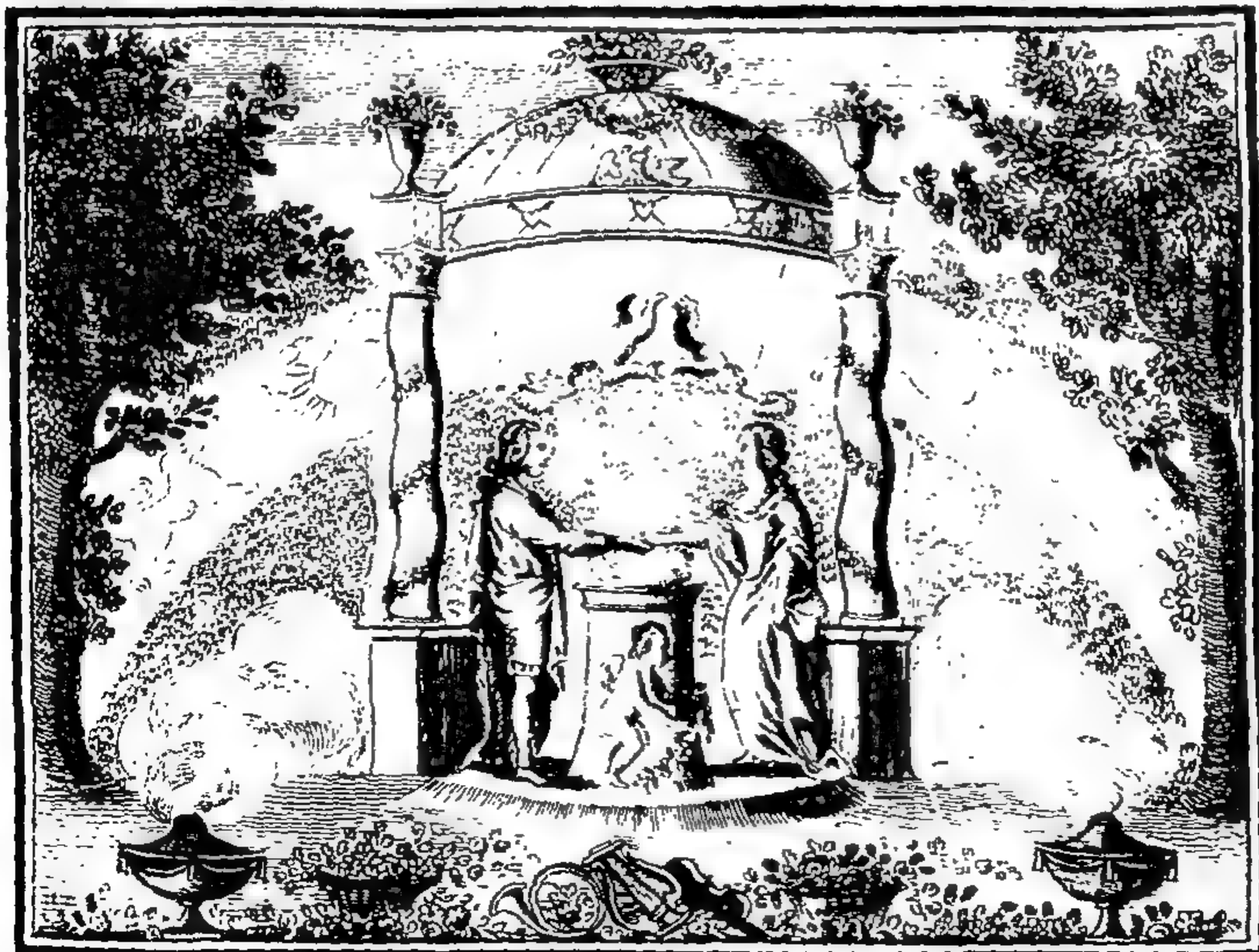
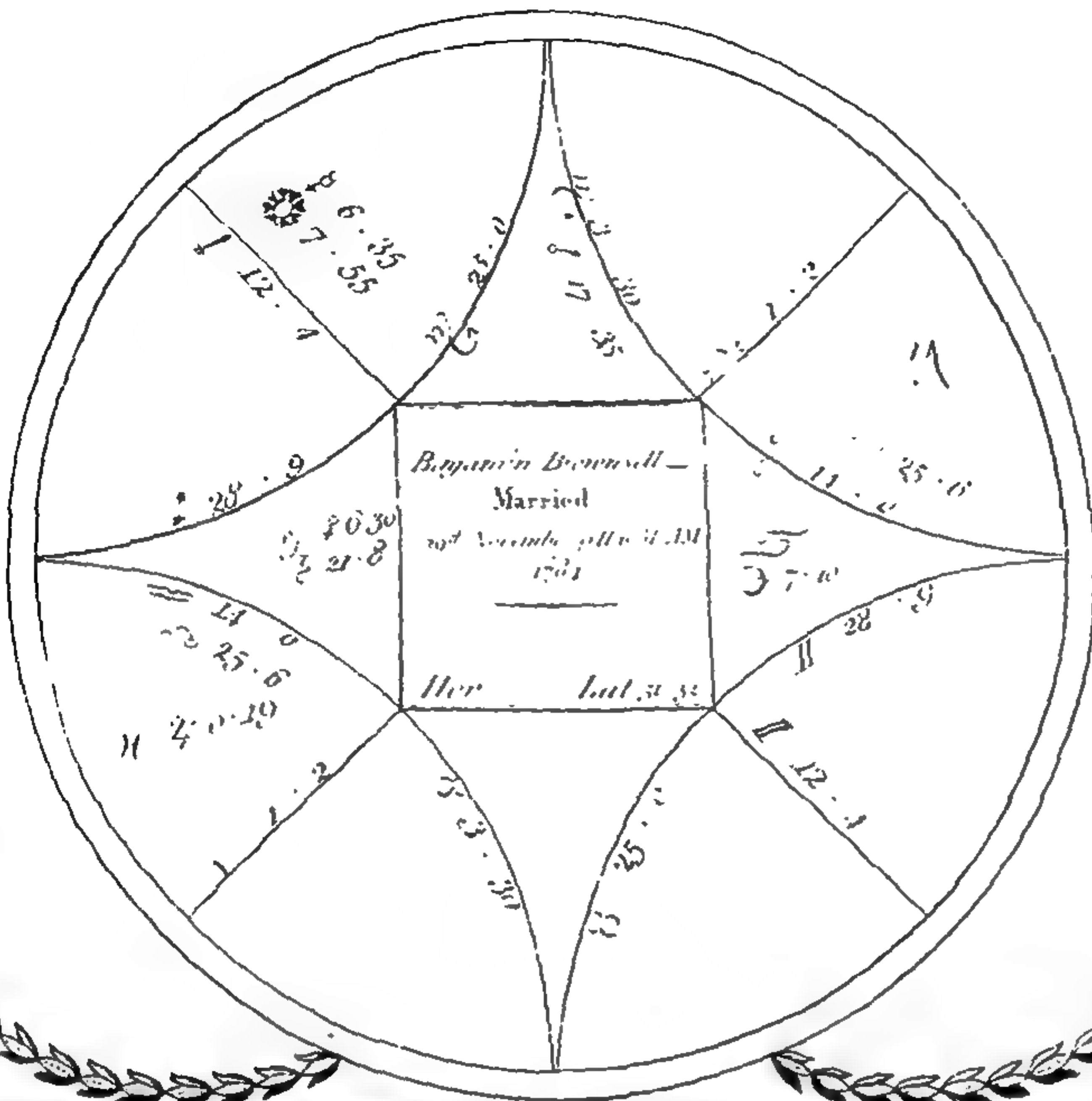
highly reprehensible, and at the same time candidly pointed out the natural infirmities of the man she proposed to call husband, which, added to his superiority of years, made it impossible for her to enjoy the natural felicities of a married life, or that they could long live and cohabit together. My advice was therefore to drop all thoughts whatever of such a connexion, and a resolution was apparently formed for that purpose; but the contrary persuasions of friends, added to the sordid temptations of lucre, in a short time got the better of my advice, and on the 29th of November then next following this couple were married.

Determined to be confirmed in my judgment of this curious match, I took down the exact time the ceremony was performed, which was at forty minutes past nine in the morning, when the heavenly intelligencers displayed themselves as in the annexed plate, and the significators corresponded with their respective genitures, in a manner astonishingly correct, and so as to prove, to the satisfaction of every reasonable mind, that the impulsive or instinctive faculty within us is stirred up and excited by the medium or influxive agency of the celestial bodies.

The ascendant of this matrimonial figure is given for the bridegroom, and the seventh house for the bride. Saturn we find is still lord of the ascendant, located in his own house, and most aptly describes the person of the bridegroom, viz. a tall lean and slender person, advanced in years, with long visage, dark hair, meagre complexion, and peevish disposition; whilst his imbecility is most correctly denoted by the position of Venus, disposed of by the frigid planet Saturn in Capricorn.

The Moon in Cancer, in the seventh house, represents the bride; and describes her to be of a middle stature, round full face, brown hair, and well proportioned; and, as the Moon is approaching to a trine aspect with Mars, it shews her to be a woman of strong passions and spirit; hot, fiery, and impatient, though good-natured and courteous.

Let it here be premised, that, in all marriages where the two significators which represent the bride and bridegroom are not in good aspect with each other, it is impossible the parties can live in harmony with each other; neither do they come together by the impulse of pure love, but for some other motive, which may generally be known by examining what house the lord of the ascendant or seventh house applies to, and the nature of the planets by which they are then occupied; for, if the lord of the eighth apply to the lord of the ascendant, or if there be no reception of the luminaries in their nativities, they are carried to
the



Marriage is Honorable in all. *Mat. xxv. Chap. 13. Verse 4th*

the hymeneal altar, not by the force of love, but by motives of avarice. Sometimes indeed we find love to be on one side, and interest only on the other. This is when the lord of the ascendant is a superior planet, and the lord of the seventh an inferior one of a contrary nature, and yet applying to the lord of the ascendant. Again, we find marriages take place where there is no love at all, as is the case in the above figure, where Saturn, a superior and ponderous planet, significator of the man, is posited in his own house; and the Moon, a light and inferior one, and significatrix of the woman, likewise in her own house, but both of them in opposite signs, is a demonstrable proof of avarice on one side, but of love on neither.

Upon the whole, mutual convenience may be traced out as the primary incentive in both these parties. The man was rich and old; the girl young—but not rich. So Mars, being lord of the tenth house, and posited therein, collects the rays both of Saturn and the Moon; and, being so much higher elevated, impresses with a stronger influx this disposition upon their inclinations, and proves to us that their hands were joined, but not their hearts.

Jupiter, in all cases where he is free from malignant beams, hath designation of perfect honesty. In this figure we find him just entering into his own house, in platic trine to the Moon, and in sextile with Venus. But, although he thus favourably irradiates these two prolific planets, so as to impel a joint inclination to have the marriage ceremony performed, yet, by being in quartile aspect to the Sun and Mercury in the eleventh house, which is the bride's fifth, and consequently her house of children, pleasure, and delight, it plainly demonstrates, that, though she should have no offspring by her husband, she would take care to acquire it by other means.

The Sun and Mercury have dignities in the seventh house, and consequently have strong sympathy with the bride; but, being posited in the eleventh, they become significators of enemies of the bridegroom. The Sun having his triplicity in the twelfth, and being within five degrees of the cusp, united at the same time with Mercury, shews that their influence will be of the like nature and tendency; and, as both of them are in the bride's fifth, which according to the rotation of the sphere is her house of pleasure and fecundity, they give designation of two persons, with whom she would have familiarity and criminal contact; which is further illustrated by their being in exact quintile to the Moon, her immediate significator; which, being in no aspect whatever with Saturn,

Saturn, the significator of her husband, shews that they will separate, and abandon each other, without any bodily union whatever.

The extraordinary circumstances of the case induced me to give my opinion of the marriage very freely, in the company I was in, the same day it was, if I may so termed, consummated. Much mirth, of course, resulted from my observations; but very few believed the circumstances I mentioned would so suddenly come to pass; particularly that a separation would prove the consequence of a single night's embrace; and that both parties would disunite with so much indifference.

The facts quickly followed the prediction. The new-married pair were put to bed—*where love and joy should take their fill*: but such was the singularity of the case, that the bride rose up with the Sun, and, having been refused that participation of fortune her friends had blazoned out, and finding no other allurements to supply that defect, she immediately deserted her husband, who never took the pains to retrieve her; and she has since attached herself to two other persons, by both of whom she has had children.

Whoever contemplates the horoscope given in the annexed plate, will easily account of this otherwise extraordinary narration. They will likewise perceive that we have given a lively contrast of a bad marriage, by an emblematical representation of a good one, where heart and hand, and innocence and love, draw down the fostering hand of heaven, with fruitfulness and joy. Interest and ambition ought surely never to guide the laws of love. The sweet intercourse of the sexes, and the ecstatic bending of soul and body in the bonds of matrimony, becomes a crime, when not directed by that heavenly flame. It is the attic fire of all-powerful love, which alone teaches us to be happy here, and leads to immortal happiness hereafter; for,

*Well-chosen love on earth can never die,
But with our nobler part ascends the sky.*

TRAITS of Illustrious and Extraordinary CHARACTERS,
deduced from their genethliacal Figures of Birth.

ALEXANDER the GREAT.—Born in Lat. 42°.

The person of this illustrious monarch is most aptly described by the respective significators of his geniture, in the annexed plate. We find the lord of the ascendant, and the two luminaries, are in Cancer; Virgo, and Taurus, all which are signs of brevity, and denote a low or mean stature; and, as Saturn, lord of the ascendant, is posited in a *pitted* degree of Taurus, it shews that he was wry-necked, constantly holding his head on one side. He was likewise hasty and choleric; which is described by the Moon in conjunction with Mars, a configuration that gave him at the same time an uncommon share of courage, an intrepid spirit, and an unconquerable mind. Experience hath taught, that Venus adorns and enriches that part of the body which is governed by the sign in which she happens to be posited at the hour of birth. In this nativity, Venus is in nineteen degrees forty minutes of Leo, which represents the back and heart; and in conjunction of Jupiter. These circumstances prove the native to have been endowed with a large, benevolent, and courageous, heart, all of which, in the course of his life and actions, were in a thousand instances exemplified. Nor are these excellent endowments prefigured only by the benefic irradiations of Jupiter and Venus; they are further illustrated and strengthened by the north node of the Moon falling in the ascendant, while Saturn, the dispositor thereof, is in trine to the Moon and Mars, and the Sun, in the exaltation of Jupiter, in trine of them all.

The time of this monarch's inauguration and investiture of the kingdom is prefigured by the trine of the midheaven with Venus; at the same time that Venus is within orbs of a conjunction with Jupiter, who is lord of the tenth and eleventh houses, which have designation of the crown, kingdom, and people. The direction of these aspects came up in about twenty-one years from the native's birth, at which time his coronation took place; when he, in every sense of the word, began to reign in the hearts of his people.

In this nativity, the Moon is certainly Hyleg, and is therefore to be directed for death. The Sun, Mars, and Mercury, are co-significators of death; and hence it is that the learned Gadbury attributed his death to poison, which misfortune befel him when the Moon came to the quartile of Mercury in the eighth house. This prediction of the

native being poisoned, is unquestionably confirmed by what is recorded of Olympias his mother ; who having, six years after his death, discovered the fact, caused many suspected persons to be put to death, as accessories in the murder.

NERO CÆSAR.—Born in Lat. 51°.

This native is usually denominated Bloody Nero ; and indeed, if we but cast our eye upon the horoscope of his birth, we shall find ample demonstrations of a cruel and vindictive disposition. Mars is opposed to Jupiter and Venus in the twelfth house, an aspect of noxious and direful tendency. Jupiter, we find, is lord of the tenth, and consequently significator of the native's mother. Mercury is lord of the ascendant, in exact quartile of the Moon, which is an obvious proof that the native should cruelly treat and abuse his mother ; and, as Mercury is at the same time in sextile of Mars, it is a probable argument that he would become a murderer. The quartile of the Sun and Saturn, is a configuration productive of every vicious inclination, and of every atrocious crime. Under the influence of this malignant direction, which held for a considerable length of time, he not only became hated by the people under his government, but exercised those bloody and unparalleled cruelties that darken and disgrace the annals of his reign.

In the black catalogue of his offences it is recorded, that he not only murdered his mother, but first committed incest upon her. He poisoned his own brother ; killed his sister in law ; and destroyed his wife Poppea, by kicking her to death when pregnant. He wantonly set fire to Rome, and exultingly made an entertainment in sight of the flames, while the city was burning ; and, being afterwards proclaimed by the Roman Senate an enemy to the state, he, the moment he heard it, became his own executioner, and destroyed himself in the thirty-second year of his age ; the directions for which are the Moon to the conjunction of Mars, and Jupiter to the opposition of the Sun, who, in this nativity, was Hyleg, or giver of life. Thus the configurations precisely describe the quality of the man, and the directions shew the manner of his death, all which minutely came to pass.

POPE SEXTUS V.—Born in Lat. 43°.

Latitude of the Planets.

♄	North Latitude	0	50
♅	South Latitude	0	11
♆	North Latitude	0	5
♇	South Latitude	2	25
♈	North Latitude	2	0
♉	South Latitude	4	46

This nativity displays a brilliant assemblage of benignant configurations, calculated to promote the most exalted honour and felicity. To prefigure the native's future greatness, here is a most remarkable conjunction of the Sun and Jupiter in the ascendant ; and, to prove that this splendor shall arise from ecclesiastical preferment, we perceive the lord of the ninth house in conjunction with the lord of the tenth, also in the ascendant. That an extensive flow of wealth and riches shall accompany this preferment, is evident from the position of the lord of the ascendant in the second house, strong in dignity, and in trine aspect of the Moon, which is in conjunction with the Part of Fortune. These are universally allowed to be the strongest arguments of future prosperity and grandeur to the native that can possibly arise from any irradiations of the stars whatever ; and the result proved the certainty of the fact. At the age of sixty-four he was elected Pope ; at which time the medium cœli came to the body of the Sun, as may be seen by equating the direction ; and is a most apt configuration for producing princely honour and sovereignty. The Sun, in this nativity, is Apheta, and the Moon is Anareta ; so that, when the Sun and Moon came into contact by anaretical rays, this illustrious native departed this life, which happened on the 24th of August, 1590, at which time the Sun came to the perfect quartile of the Moon, in sixty-nine years from the day of birth, which was the exact age of the native.

PHILIP II. KING of SPAIN.—Born in Lat. 42°.

When this native was twenty-five years old, (which was in the year 1630,) he was in imminent danger of being burnt to death, but was miraculously preserved. The directions at that time operating, were the ascendant to the body of Saturn, and the Sun to the opposition of the midheaven ; and consequently to a conjunction with the fourth house, which hath designation of the house in which he dwelt. The Sun and Saturn being in fiery signs preface his danger to arise by means of fire ;
and

and the opposing irradiations of the benefic stars describe the manner in which he was preserved.

In the year 1633, a conspiracy was formed against the prince, and he was in the utmost danger of being stabbed. This is declared by the direction of Mars to an opposition with the ascendant by direct direction, and prevented by the superior force of the benefic rays.

In 1649, when the native was nearly forty-four years old, he was attacked by a sharp and violent fever, and his life was despaired of. This indisposition came by the configuration of the Moon, which is the aphaeta, or giver of life, directed to the quartile of Mars : but fatality was prevented by the nourishing beams of Jupiter directed at the same time to the ascendant.

In the year 1656, a war broke out betwixt this prince and Oliver Cromwell, then Lord High Protector of England ; an event which is most aptly foretold by the body of the Sun coming to the Bull's Eye, a violent fixed star ; at the same time that the Part of Fortune comes by direction to an opposition of the Sun in violent signs.

In the year 1659, King Philip made peace with France, and married his daughter to the French King. These events are prefigured in his geniture, exemplified in the foregoing plate, by the ascendant coming by direction to the sextile of Mercury, lord of the seventh house ; and the Moon to a perfect sextile of the Sun.

In 1661, the ascendant came to the body of Jupiter ; and was succeeded by a revolutionary sextile of the Moon to her own radical place in the geniture ; at the same time that Venus forms a mundane trine with the midheaven. These directions promise much happiness, honour, and reputation, to the native, and point out the happiest and most illustrious part of his reign.

The Moon in this nativity being Giver of Life, and the Sun Anareta, foretells the time and manner of his death. Let the direction of their opposite beams be equated by the rules already given, and it will be found that the perfection of the aspect in the anaretical place of the horoscope agrees precisely with the hour in which this illustrious prince yielded up the ghost.

HENRY VI. KING of ENGLAND.—Born in Lat. $51^{\circ} 32'$.

This prince succeeded to the crown of his ancestors when he was but two months old, and was crowned King of England on the 6th of November, 1429; the midheaven being then directed to a trine aspect of the Moon. At ten years of age he was crowned King of France in the city of Paris, under the influence of the ascendant directed to the body of the Moon, which configuration participates of the same nature and quality with the former, and they both most aptly denote these illustrious events, when applied to the persons of princes of the blood, or to heirs apparent to the throne.

At twenty-four years of age, the ascendant is irradiated by the sextile rays of Jupiter; under which direction he marries with the celebrated lady Margaret, daughter to the Duke of Anjou, a princess of masculine resolution and courage, which is represented by the fiery planet Mars, located in the seventh house, in his exaltation. This violent and intrepid spirit of Margaret was quite opposite to that of her consort, who imbibed from nature a disposition remarkably mild and meek, as is obviously prefaged by the passive qualities of the several significators in his geniture, displayed in the foregoing plate.

In his thirty-ninth year, this native was taken captive by the Earl of March, and, by consent of the people, stripped of his royalties, and sent prisoner to the tower. This untoward event is prefaged by the Moon's quartile application, first to the midheaven, and then to a malefic quartile of Mars, both which directions came up precisely at the time these circumstances took place. After he had been twelve years a close prisoner, namely, on the 21st of May, 1642, being then fifty years of age, he was inhumanly murdered by the hand of Richard, the bloody Duke of Gloucester. Mars then came to the quartile of the Moon, which, in this nativity, was Giver of Life.

If we consider the relative positions of the planets in this geniture, we shall not wonder that this prince was unfortunate in war, and unsuccessful in all his enterprizes. The Moon in opposition to Mars, strengthened by angular places, and Mars, significator of public enemies, so powerfully located in his own house, at the same time that he is constituted the governing planet of the geniture, is an irrefragible argument that Fate and the Stars were combined against this unfortunate prince. The cause and manner of his captivity are clearly pointed out by Venus, lady of the ascendant, in quartile with Saturn; and by

Jupiter, lord of the twelfth house, the house of imprisonment, in quartile with the ascendant; whereby is shewn the superiority and success of his enemies over him. The Moon's opposition to Mars, from fixed signs, and near the Pleiades, denotes the violent and untimely death which this native suffered; but who inherited so mild and passive a temper, that, when struck by a common rustic, he gently replied, "Forsooth you wrong yourself more than you do me, by striking the Lord's anointed!"

HENRY VIII. KING of ENGLAND.—Born in Lat. $51^{\circ} 34'$.

The lofty spirit and arbitrary will of this prince are demonstrably proved by the position of the luminaries in cardinal signs, as displayed in the annexed plate. His temperature and inclinations are ascertained by the configurations of Mercury in trine of the Moon, and in sextile to Venus; at the same time that he beholds the ascendant with a sextile ray, and forms concordant familiarities with the other significators. This not only bespeaks a winning and complacent deportment, but manifests a luxuriancy in the gifts of nature, not commonly bestowed upon the masculine conformation. Here are however strong marks of obstinate resentment, and obdurate revenge, even against offending females; whom it was not in his nature to forgive, when once seriously incensed against them, as the houses and signs testify, wherein Venus and Mercury are located.

The astrological cause of this native's desire after many women is deduced from the sextile irradiations of Venus and the Moon with Mercury, the Moon being at the same time dignified in the seventh house. And the reason of his continual disagreements and contentions with them, is because Jupiter, lord of the seventh, is in quartile with Mars and the ascendant, which stir up the choleric humour, unallayed by lasciviousness and lust. The severity of his treatment to them, is depicted by the luminaries being in quartile to each other; the Moon in the west angle, in the house of Mars, while Venus, the significatrix of his concubines, is in conjunction with the Dragon's Tail.

The circumstance of this potentate changing his religion, and encouraging the reformation of Luther and Calvin, is most admirably described by the quadrate aspect of Jupiter and Mars, with the Dragon's Tail in his ninth house. I shall not go into a detail of this remarkable event, nor consider it astrally in all its parts; my purpose here being only to mark out the extraordinary incidents of these great mens' lives,
and



and to shew the directions under which they happened, that the young student, or inquisitive reader, might apply them as examples, and profit by the result.

This Prince reigned over Great Britain thirty-nine years, and died on the 28th of January, 1547, in the fifty-sixth year of his age. In this geniture the Sun is Hyleg, or Giver of Life, which, being directed to the Anareta, will be found to correspond exactly to the time of his dissolution.

EDWARD VI. KING of ENGLAND.—Born in Lat. $51^{\circ} 32'$.

♌	North Latitude	1	50
♈	North Latitude	1	30
♀	North Latitude	0	4
♏	South Latitude	4	17

It is remarkable of this native that he was extracted by manual operation from his mother's womb, and his life preserved. At ten years of age he succeeded to the crown of Great Britain, namely, on the 28th of January, 1547; at which time the ascendant of his nativity came by direction to the conjunctive aspect of the planet Venus, lady of the tenth house or medium-cœli, which is the house of dignity, honour, and supreme power.

This prince reigned only six years and five months, and expired when he was little more than sixteen years old. The ascendant, in this geniture, must be taken for Hyleg, or Giver of Life, because neither the Sun, Moon, nor Part of Fortune, are in aphetical places. Saturn is the Anareta, or Destroyer of Life; and consequently, when Saturn came by direction to the ascendant, the native expired.

To prove this to be a fatal direction, we find there were operating at the same time, the Sun to the quartile of Mars and the Moon to the opposition of the same malefic planet; so that both the luminaries were afflicted, when Saturn traversed the ascendant, and gave fresh vigour to the hand of death. Hence it is apparent, that this native was not designed by nature either for a long or an happy life.

MARY,

MARY, QUEEN of ENGLAND.—Born in Lat. $51^{\circ} 34'$.

In this geniture we find Saturn lord of the ascendant, out of all his own dignities, but in the dignities of Jupiter, and in a fiery sign. Jupiter we find is the dispositor of Saturn; but is posited in a fiery sign, likewise. These are infallible arguments of an oppressive and rigorous government. The Moon, being in opposition to Jupiter from angles, hath designation of grievous dissensions about religion. The quartile configurations of the Sun with Mars, and Mars with Mercury, in the dignities of Jupiter, in bicorporal signs, near Aldebaron, shew the dishonourable and bloody reign of this princess, and the persecution of her subjects in matters of conscience and religion. Venus, being lady of the third house, represents her sister; and, being posited in the twelfth, most aptly declares her sister's imprisonment; and the more so, as Saturn is not only lord of the ascendant, but lord likewise of the twelfth, the house of imprisonment and affliction.

When the ascendant came to the sextile of the Sun, she succeeded to the crown of Great Britain, namely, in the year 1553, being then near thirty-seven years of age. In the year 1554, she was suddenly married to Philip King of Spain, under the direction of the Sun to the trine of Venus.

This native died in the forty-second year of her age, after she had reigned about five years and a half. The time and manner of her death are pointed out by the Sun, which is Giver of Life, directed to the quartile of the Moon, in quartile to Saturn, lord of the ascendant; and on the day she died the Moon came to the opposition of Mars. These directions are all of a violent nature, and whoever equates them by the Sun's motion will find them correspond exactly to the time and manner of her death.

ELIZABETH, QUEEN of ENGLAND.—Born in Lat. $51^{\circ} 32'$.

Upon the ascendant we find the regal sign Sagittarius, with Jupiter, its lord, located therein; which declares the native to inherit a most masculine and intrepid spirit, a poignant wit, and undaunted resolution; qualities which are greatly heightened by the degree ascending being in the dignities of the planet Mars.

In

In the twenty-first year of her age, she was oppressed and imprisoned, and suffered every species of persecution that could result from the vindictive jealousy and resentment of her enemies. During these troubles, she had operating a most malefic direction of Saturn to the quartile of the Sun, in the ninth house, which exactly describes the cause for which she was persecuted, namely, her hereditary right to the crown, and her attachment to the protestant religion.

When this illustrious princess attained her twenty-fifth year, she triumphed over her domestic enemies, and was crowned Queen of England. At this time the ascendant was directed to a trine aspect of the Sun, who is the patron of honour and sovereignty.

In the sixty-ninth year of her age, this celebrated princess made her exit, under the mortal direction of the ascendant to the quartile aspect of the Sun; leaving posterity to record the blessings of her reign, in which were laid the solid foundations of the protestant establishment.

Should the young student take the pains to set a revolutionary figure for the year of the native's death, he will find there was a conjunction of the two infortunes in the opposite place of the Moon in her radical nativity; and the figure itself nearly in quartile to that of her birth. The lord of the ascendant was in the eighth, and the Sun was falling in the sixth house; and on the day of her death, viz. the 24th of March, 1602, the Sun and Mars were both in the place of the direction, and the Moon in quartile of them both, as if nature herself sympathised with her subjects in the loss their sovereign.

The E A R L of E S S E X.—Born in Lat. 52°.

♂	North Latitude	1	0
♂	North Latitude	1	0
♀	North Latitude	1	0
♂	North Latitude	1	0
♂	North Latitude	1	0

It was not until the twenty-eighth year of his age that any thing remarkable occurred to distinguish the character of this celebrated nobleman. About that time he had a very eminent and powerful direction operating, of both the luminaries to a sextile configuration of Jupiter, under which he became powerful and elevated at court, and acquired the esteem and confidence of the queen, in a most *unlimited* degree, as the several significators very aptly testify.

At thirty-two years of age he was deputed, as the principal in commission, to seize the Spanish fleet; and soon after he was created earl marshal by the queen. This latter honour begat him abundance of enemies, and created great jealousies and suspicions among the nobles, and particularly among those who were invested with the several dignities and offices of state. At this time the native had the luminaries directed to the sextile of Venus; and, to shew the envy and malevolence of his enemies, he had the midheaven directed to the opposition of the Sun.

In the thirty-third year of his age this native was appointed to Ireland, viz. on the 27th of March, 1599. The Dragon's Tail was then on the ascendant; and, the day he set off, the Sun and Saturn were in opposition from the tenth and fourth houses; and, what was worse, the medium-cœli came by direction to an opposition with the Moon. It is hence evident that he would not prosper; and the event proved the fact; for, on the 28th of September following, he returned to the Court of London, the Sun being then in the place of Saturn at the time of his setting out.

On the 2d of October, 1599, he was committed to the Tower; and in June following he was suspended from all his employments and offices in the state. On the 19th of February, 1600, he was arraigned, tried, and condemned, and on the 25th of the same month, being Ash-Wednesday, at eight o'clock in the morning, he was beheaded; at which time the midheaven came to a malefic opposition with Mars.

The arguments of a violent or premature death, in this nativity, are many. The two luminaries in conjunction with Mars, in aspect with a violent fixed star; the Sun and Moon, and lord of the eighth house, in violent signs, and Mars in Sagittarius afflicting the luminaries, are so many arguments, in any geniture, of an ignominious and untimely end; and, in the nativities of persons of quality and distinction, they are always considered as emblems of the loss of life, honour, and reputation.

At the moment of this unfortunate nobleman's death, the radical place of the Dragon's Tail ascended; the Sun and Mars were in opposition to the ascendant of the revolutionary figure, and Saturn was in exact opposition to the Dragon's Tail, all which circumstances declare his life to have been taken away by violence and treachery, to satiate private resentment, and to appease the clamours of those who were too powerful to be opposed, and too sanguinary to rise in the political hemisphere but at the price of blood of those by whom they were eclipsed.

JAMES



The King of GREAT BRITAIN
 12th June 1821 10 PM
 1500



CHARLES I. KING OF ENGLAND
Born Nov^r 19. 1600 2m 35 sec PM.



OLIVER CROMWELL.
Born April 24 1511 4m. P.M.
1599.



CHARLES IInd King of GREAT BRITAIN
Born May 29. 1630. A.M.



JAMES H. King of GREAT BRITAIN
Born Oct 14 111.30m PM
1635

JAMES I. KING of ENGLAND,——Born in Lat. 56°.

This geniture is remarkable for giving a great number of testimonies to the honour, dignity, and pre-eminence, of the native. The Sun being in exact sextile to the ascendant from the tenth house; the Moon in partile sextile of Jupiter; Jupiter in conjunction with the Part of Fortune in the second house; Venus, lady of the tenth located therein, having familiarity with many eminent fixed stars, in trine to the second house; the two luminaries in perfect reception of each other; and the lord of the ascendant in the tenth house in conjunction with the Sun, and in sextile to the ascendant, are testimonies of dignity, honour, magnificence, and supreme power, rarely to be found in one and the same geniture; but which were in the most remarkable manner verified in the person of this illustrious prince.

But notwithstanding these extraordinary arguments of splendour and sovereignty, deduced from the influx of the stars, yet we shall on the other hand find, that this celebrated monarch was not without his share of anxiety and trouble; as the annals of the British page abundantly prove. In the astral science these perplexities are presaged by the familiarity of Venus with the Dragon's Tail, in perfect quartile of Saturn and Mars; which sufficiently accounts for every evil that befel him. Added to which, we must not forget to remark the discordant rays of the Sun and Mercury, in quartile to Jupiter, lord of the seventh house, and in cardinal signs, whereby the enmities and conspiracies against him are most accurately foreseen.

The coronation of this prince took place in London, when he was thirty-seven years of age; at which time the Sun came to the zodiacal parallel of Venus, lady of the tenth house, which hath designation of fame, honour, magnificence, and preferment.

The memorable powder plot (memorable only for its diabolical malignity) happened, under the most noxious quartile aspect of the *less* malefic tendency of which mischievous direction was removed by the infortune Mars, in the thirty-ninth year of the native's age; the superior rays of the benevolent Jupiter.

In this nativity the Sun is Hyleg; and we find Mars, Venus, and Saturn, all of them operating in the anaretical place of the geniture. Hence it is obvious, that, when the Sun came to the conjunction of Mars,
jointly.

jointly with the quartile of Venus and conjunction of Saturn, the native would suffer a violent death ; which really took place, when these directions came up, in the sixtieth year of his age. The constitution of Venus with the Dragon's Tail, irradiated both by Saturn and Mars, in the anaretic place, shews the native's death to have been occasioned by poison ; for the immortal Ptolomy saith, that, whenever Venus is joined with the malefics, in familiarity with the Dragon's Tail, in directions to the hylegiacal or anaretical parts of the horoscope, it portends death by poison—and so it really happened in the present instance.

CHARLES I. KING of ENGLAND.—Born in Lat. 56° .

This unfortunate monarch was crowned king of this empire in the twenty-fifth year of his age ; and was soon after married to the daughter of Henry IV. of France. The medium-cœli was then directed to the triangular rays of the Moon, in the house of dignity.

In the twenty ninth year of his geniture he had the medium-cœli directed to the opposition of the Sun, under which influence he dissolved his parliament. The Scotch enthusiastic phrenzy took place in his thirty-eighth year, under the direction of Saturn to a conjunction of the Moon. In 1641, being the forty-first year of his age, he summoned a new parliament, in which the famous contention about the militia took place. It likewise fermented religious jealousies, and laid the foundation of serious machinations against the king's life ; all which misfortunes are prefigured by, and happened under, the influence of the ascendant directed to the quartile of Venus, lady of the tenth house ; and of the medium-cœli directed to the quartile rays of Jupiter.

It was in the forty-sixth year of his geniture, that this monarch placed his life in the hands of the Scotch army, expecting from them that safety and protection they had proffered to give. But, when they had effected their bargain with the parliament, they basely surrendered him up, in violation of all the ties of honour, humanity, and benevolence. This transaction took place under the malevolent influence of Saturn transiting the midheaven, a configuration in the world known to be the forerunner of ingratitude, treachery, and deceit.

In his forty-eighth year, this unhappy monarch was beheaded, in the front of his own palace, Whitehall. This memorable event was effected under the direction of the Part of Fortune to the quartile of the Moon,

Moon, and the zodiacal parallel of Saturn to the mundane parallel of Mars ; and might serve as an useful monitor to succeeding princes, not to trifle with the remonstrances of a free people ; nor to hold in defiance that genuine flame of heaven-born patriotism, which, when once seriously kindled through an empire, carries all before it, and breaks down every barrier of protection, even to the sacred person of the Lord's anointed.

OLIVER CROMWELL, Lord High Protector of ENGLAND.
Born in Lat. $52^{\circ} . 19'$.

In the nativity of this enterprising and extraordinary character, we find six planets essentially fortified, and four of them in friendly trine to each other, with the luminaries and Jupiter in sextile. These configurations presage the most important acquisitions to the person of the native ; at the same time that they illustrate the intrepidity and valour of his spirit, with the capaciousness and sagacity of his mind. The professors of this art both ancient and modern agree, that, where only three planets are found essentially dignified in a nativity, it is an earnest of singular prosperity and good fortune to the native ; but, where six testimonies of the same nature occur, it is an evident proof that the person born under their influence will eclipse all his cotemporaries in his advancement to glory and fame. How far this was verified in the person of Oliver Cromwell, when the humble situation of himself and his ancestors is considered, I shall leave to the decision of the candid and intelligent reader.

In the year 1640, this native was elevated to a seat in the British parliament. This was his first step to public fame and honour, and happened under the occurrence of the medium-cœli to the Dragon's Head, seconded by a favourable revolution, in which Jupiter occupied the cusp of the tenth house.

In the year 1642, Cromwell was appointed to the command of a regiment of horse ; and he raised one troop at his own expence. The Moon was then directed to the Scorpion's Heart, an eminently martial and jovial fixed star. In 1643, he was elected Lieutenant General to the Earl of Manchester, under the direction of the Moon to the trine aspect of Mars.

The memorable dispute between Cromwell and the Earl of Manchester took place in the year 1644, with uncommon acrimony on
No. 44. 10 D both

both sides. The Earl conceiving himself the better man, and supposing his interest in parliament to be much superior, he preferred divers informations against his Lieutenant General, but to little or no effect. The native quickly exculpated himself, and triumphed over his accuser. During the whole of this year, Saturn occupied the ascendant of his revolutionary figure ; and in his radix, or figure of birth, the ascendant was at the same time directed to the term of Mars.

In 1645, the native was appointed Lieutenant General under Sir Thomas Fairfax ; and now his fame began to spread abroad. The Moon was then directed to the sextile aspect of Saturn, lord of the medium-cœli ; and under this direction he eventually took the lead of Fairfax himself.

In the year 1648, he remonstrates with the parliament, and contends with the levellers, by which he fell into disgrace. Under the influx of the same directions, he formed the plan of bringing his sovereign's head to the block. These malignant beams proceeded from the quartile aspect of the Sun and Saturn, accompanied by the Part of Fortune to the opposition of Venus.

In 1649, Cromwell attended the army in the expedition against Ireland. He succeeded in the undertaking, but was severely indisposed with a flux and fever. This all happened under the succulent beams of the Moon, directed to the parallel of Jupiter in the zodiac. The years 1650, and 1651, were employed in subduing the opposition in Scotland. Wherever the native turned his arms, he came off victorious. This was the Sun directed to his own sextile, and the fortunate irradiations of the principal significators in the revolutionary figures of those two years, to their radical places in the geniture, whereby all things appertaining to the native prospered well, and terminated generally to his own particular interest and advantage.

The memorable æra of his assuming the power of Lord Protector of England, was 1653, when he boldly possessed himself of the avenues leading to the House of Commons, and put an end to the sittings of parliament. Eying the Speaker's mace, he ordered his attendants to take away "*that idolatrous bauble ;*" though he afterwards thought it no vanity to have three such borne before him. These events took place when the Sun came to the bodily aspect of Jupiter, and to the sextile of the Moon, at the same time that the Part of Fortune received the

the sextile beams of Venus ; so that both the benefic planets concurred in the success of this daring enterprize*.

In the year 1654, Cromwell effected an honourable peace with France, through the medium of Cardinal Mazarin ; and he concluded a treaty of alliance with the King of Sweden, through the indefatigable perseverance of Mr. Whitlock. This gentleman was rewarded for his merit, by being dignified with a title, and appointed ambassador to the Swedish court. These incidents occurred under the influx of the Part of Fortune directed to the trine of Mars.

The craft and subtlety of the native was never more conspicuous, than when he convened a new parliament, for the purpose of getting himself confirmed in the sovereignty of the empire, under the assumed title of Lord High Protector. This took place in the year 1656, when the Part of Fortune came to the sextile rays of the insidious planet Saturn, lord of the tenth house, joined with a favourable revolution ; whereby is most aptly presaged, the attainment of advantage and preferment, under the hypocritical mask of piety and religion. To such a pitch of adulation were some of his creatures arisen, that they not only confirmed him in the title of Lord High Protector, but entreated him to assume the name and dignity of King. This, however, he had the sagacity to refuse ; deeming it safer to possess the power, without the pomp, of Majesty.

In the year 1657, when thus invested with the supreme jurisdiction of the kingdom, he sends six thousand men upon an expedition into Flanders, under the command of Sir John Reynolds. This valiant knight had likewise consulted Mr. Lilly before his embarkation, and he shortly afterwards reduced and took possession of Dunkirk, as that proficient in the astral science had previously assured him would be the case. The Sun was then forming a perfect sextile of the planet Mercury in cardinal signs, applying to Mars.

In the year 1658, on the third of September, 3h. 15m. P. M. this phenomenon amongst mankind departed this life, in the natural way, without assassination—which is perhaps the greatest wonder of the age

* It is a circumstance worthy of remark, that, before Cromwell put this daring scheme into execution, he sent for the celebrated Mr. Lilly, (who at that time of day was singularly eminent for his knowledge in this science,) and consulted him upon the occasion. Mr. Lilly only requested to be put in possession of the hour of his nativity, and he would soon inform him of the probability of the event. This was complied with ; the directions above specified were equated and considered, and the consequences exactly foretold. Cromwell is therefore supposed to have entered with more confidence into the House of Commons, and to have conducted his exterior with greater courage and dignity.

in which he lived ; and can only be attributed to the fear—not to the love—of those who had access to him. In the directions which produced his death, the Sun is the Apheta, or giver of life, and Saturn the Anareta, or destroying planet ; and the incidence of their beams met by quartile rays, precisely at the time this illustrious native gave up the ghost, as any one might perceive, by equating the arch of direction.

Thus terminated the life and actions of a man, who perhaps never had his equal—whose resources were within himself ; and whose progress through life was marked with strong portions of temerity and hypocrisy—of perseverance and good fortune. He attempted nothing but what he accomplished ; and surmounted difficulties, which would have plunged half the universe into ruin and despair.

CHARLES II. KING of ENGLAND.
Born in Lat. $51^{\circ} 32'$.

It must be pretty obvious to the reader, that the utmost of my design, in giving these nativities, is merely to shew the principal incidents of each native's life, and distinctly to point out the configurations or occurrences of the planets, under which they happened ; that, by comparing to one with the other, in every age, occupation, or distinction, of human life, we might be convinced, by the uniformity of facts, and the evidence of our own senses, that the one is, in a limited degree, subservient to the other ; and that the motion of the heavenly bodies, variegated and qualified by a coincidence of their beams, is the real medium by which the affairs of this world are influenced and directed ; and whereby the attentive reader, from observation alone, might be enabled to predict the principal occurrences of any man's life, from a bare inspection of his nativity.

According to this speculation, we find the Moon in earthy signs, applying to the terms of Mars, near the place of the Pleiades, at the time this prince was nine years old. The natural inference to be drawn from this aspect is, a broken limb, a violent bruise, or some accidental affliction ; accordingly we find the native, when this direction came up, had the misfortune to break his arm.

Again, at ten years of age, he was afflicted with the jaundice, and suffered greatly by a fever. These are the diseases of Mars ; and the Sun, being Giver of Life, and passing the terms of Mars to a configuration

tion with violent fixed stars of the same nature, evidently produced them. The violence and duration of these disorders, are pointed out by the opposition of Mars to the Sun's radical place in the geniture, in quartile to the ascendant, with the Sun and Saturn conjoined in the sixth house.

The ascendant came to an opposition of Jupiter when this prince was afflicted with the measles, which happened when he was about twelve years old. Soon after this he left London with his royal father, and was plunged into a labyrinth of sorrows and distresses. These are pointed out in a most astonishingly correct and uniform manner, by a chain of malefic configurations in his revolutionary figure of that year. The most remarkable aspects are, a quartile of the Sun and Jupiter; a conjunction of Saturn and Mars; a quartile of the Sun and Saturn; a quartile of Saturn and Mercury; a quartile of Mars and Mercury; a quartile of Saturn and Venus; and a quartile of Mars and Venus; all in progressive order, accompanied with several unpropitious and most alarming transits.

In the year 1646, this prince left his native country, and went for safety to France, where he fell sick with a scarlet fever, and his life was despaired of. At that time the Sun, Giver of Life, was directed to the terms of Mars, and to the stars of Hercules, and Saturn passed the Moon's place in the radical figure of birth. But Jupiter transiting the Moon and Venus, and to the ascendant, not only gave him a most friendly and cordial reception at the court of France; but prevented the fatality threatened by the evil rays of Mars and Saturn.

In the twentieth year of his age, he was crowned King of Scotland. This was under the influx of the mid-heaven to the trine of Jupiter. In his twenty-first year, namely, in the year 1651, he entered England with a considerable army; but was quickly attacked and defeated by Oliver Cromwell, then Lord Protector of England. At this time the ascendant came to the quartile aspect of the Sun; Saturn transited the eleventh house; and Jupiter formed a quartile with the ascendant in his own radical place in the figure of birth.

It is very remarkable, that on the precise day the battle of Worcester was fought, which ended so disgracefully to the native, the Sun came in quartile with his radical place in the geniture; Jupiter formed a quartile with the ascendant; Mars was in opposition to the Moon and mid-heaven, and the Moon in quartile both of Mars and Venus. Under

such inauspicious stars, what less could be expected than an inglorious defeat, and a cowardly defalcation on the part of his troops ?

In the year 1657, the King of Spain assisted the native with money to the amount of one hundred thousand pounds. The direction then operating exactly points out the circumstance, which was the Sun to the trine of Jupiter. In the year 1685, the native died. The direction which produced his death, was Saturn, the Anareta, to the opposition of the Sun, the Giver of Life.

If we compare the geniture of this illustrious prince with that of the king his father, we shall find the ascendant of that nativity to be the place of Mars in this. Secondly, the Dragon's Tail, in the geniture of this native, is upon the place of the Sun in the other. Thirdly, the Sun in the geniture of the father, is in opposition to himself in the geniture of the son. Fourthly, the Sun in this nativity is in quartile to the place of Jupiter in the other ; arguments, which serve abundantly to shew, that the father and the son should both be involved in one and the same unfortunate quarrel ; that the father should fall a victim to its rancour, whilst the son should rise superior to the enemies of them both, and be reinstated in the hereditary rights of the crown, and in the hearts of his people ; which, I believe, was at last pretty nearly the case.

JAMES II. KING of ENGLAND.

Born in Lat. $51^{\circ} 32'$.

The first accident we meet with in this geniture, befel the native in his infancy, when he was only a year and a half old, which was an imposthume in his head, and continued, after it broke, for five years, before a perfect cure could be formed. This happened under the direction of the Moon to the quartile aspect of the Sun ; which, being in fixed signs, declares the obstinacy and continuance of the disorder.

In the year 1646, the native was afflicted with a severe ague, which reduced him in a manner singularly rapid and alarming. The cause of this illness I find in a revolutionary horoscope of that year, where a malefic opposition of the Sun and Saturn, in quartile to the Moon's radical place, produces aguish affections, accompanied with a violent fever. The ponderosity of Saturn declares the transit should be accompanied with dangerous symptoms. Again, the ascendant came to the
body

body of Mars in the year 1650, and the Moon to a quartile with the Part of Fortune, which influx likewise produced a violent fever, and a remarkable lassitude of the whole human frame. The native was then in his seventeenth year.

In 1653, this prince headed a wing of the army in Flanders, and received a dangerous wound. It was in its nature not mortal; but, being accompanied with a violent fever, the dangerous symptoms were increased, and the native's life in consequence despaired of. This was produced by the beams of the Sun, when lord of the ascendant, directed to the hostile rays of a perfect quartile of Mars. Another fever was produced by the Moon directed to the body of Mars, and the Sun to the body of Saturn, which attacked the native in the year 1667, when no person expected he would have survived. These configurations serve to shew, that, from the radical constitution of the several significators in the figure of birth, the native was more liable to fevers than to any other complaint. From the same source of information we likewise discover, that this prince was subject to weak eyes and imperfect sight. This is declared by the quartile position of the two luminaries to each other; the one being placed near nebulous stars, and the other in familiar congress with stars of a violent nature.

Anno Domini 1685, this prince succeeded to the crown of Great Britain. This is predicted by the planet Jupiter, to a favourable conjunction of Mars, in the medium-cœli, or tenth house, the house of honour, glory, and preferment. But here the influx of Mars, who is the lesser infortune, most aptly points out to us, that, though he is brought by the *primum mobile* to a coincidence with the benefic beams of the princely star Jupiter, and bears testimony to his coronation, yet the consequences would favour very much of the evils wherein this malefic planet is observed to delight.

So many cross and unpropitious directions as we find in this nativity are at first sight sufficient to convince us, that the unhappy native would drink deep of the bitter cup of disappointment and affliction. To justify the remark, requires only to advert to the private and public anecdotes of this prince, who, though he lived to the age of sixty-seven years, enjoyed but a very moderate share of health, and still less of happiness.

GEORGE,

GEORGE, DUKE of ALBEMARLE.—Born in Lat. 51°.

♈	North Latitude	0	17
♈	North Latitude	1	50
♏	South Latitude	0	49
♏	South Latitude	0	59
♏	South Latitude	1	20
♏	South Latitude	4	53

This nativity is worthy the minutest attention of every reader, for the singularity of its noble and illustrious configurations ; and whereby a good and prosperous geniture might be readily distinguished from those of an unfortunate and adverse designation.

The first direction material for us to examine in the above geniture, is the ascendant to the quartile rays of Saturn, posited in Aries, the greatest dignities of Mars. Under this malefic influx, the native was taken with the small pox, and very narrowly escaped with his life, which we see protected by the superior strength of the benevolent Jupiter in the ascendant, and the vivifying rays of the Sun unafflicted in the tenth house.

In the twenty-first year of his age, he was appointed to an arduous employment in the Low Countries ; in the execution of which he increased in reputation, honour, and fame. The Moon was then directed to the eminent star Oculus Tauri ; which hath the most natural designation of this fortunate occurrence. In his thirty-first year, he was made a Captain in the Horse Guards. He had then in his nativity the ascendant directed to the trine aspect of Venus, in the sign Taurus, her chief dignity and exaltation, whereby these two eminent promotions are found to correspond, and to be the result of each other. When the native was thirty-two years old, he was honoured with the command of a regiment. To denote this preferment, he had the mid-heaven directed to the sextile aspect of Mars ; and this in Capricorn, his exaltation ; a very great argument of success in martial honours and achievements.

At thirty-five years of age, this native was unfortunately worsted in an engagement, and taken prisoner. The Sun was then directed to a conjunction of Saturn ; and the Moon had nearly formed a quartile aspect with Mars. The first direction fell in the twelfth house ; and Saturn, the promittor, was then lord of the twelfth.

But



GEORGE Duke of ALBEMARLE.
Born Decr 6 11. 51m. AM
1608.



JAMES Duke HAMPTON.
Born June 17. 11. 15m. PM
1606.



John WESTWORTH Earl of STRAFFORD.
Born April 21 11. 22m. P.M.
1593.



George Villiers Duke of BUCKINGHAM.
Born Aug 28 11. 11m. PM.
1592.



William LAIRD ArchB. of CANTERBURY.
Born Oct 6 16 11. 58m. P.M.
1573.

But in the fifty-second year of his age, namely, in May, 1660, he restored Charles the Second to his crown and dignity, after he had been twelve years in exile; and re-established peace and tranquillity to the three kingdoms, England, Ireland, and Scotland. He had then the Moon directed to the sextile rays of Jupiter; and Jupiter being lord of the tenth house of his nativity, made that action more eminent and honourable. This was not a little augmented, by the Part of Fortune being also directed to the trine of Jupiter; and, to shew the opposition and struggles he should meet with in the accomplishment of that glorious undertaking, he had the ascendant directed to the contrajunction of Mercury, lord of the seventh house, and the significator of open enemies.

That this native was born for great and illustrious undertakings, admits of no doubt. We find the Sun posited in the tenth house; in a noble fiery sign, and in trine aspect of the Moon, in a sign of the same triplicity. Jupiter is likewise posited in the ascendant, in trine of Venus and Mercury in the eleventh. Mars, being also upon the ascendant, gives him intrepidity and courage; and in sextile of the planet Saturn, added deliberation to his enterprizes, and formed him not only for the soldier, but for the statesman and patriot. He hath the Moon likewise in the very degree of the Sun's exaltation, upon the ascendant of England, in the sign Aries, which disposed him to such great and glorious enterprizes, for the love and loyalty he bore to his king and country,

JAMES, DUKE of HAMILTON.—Born in Lat. 56°.

♂	North Latitude	1	0
♂	North Latitude	1	0
♂	South Latitude	2	0
♀	South Latitude	3	0
♂	South Latitude	4	0
♂	South Latitude	1	0

This is a glorious nativity; there being no less than five planets most eminently dignified with the luminaries above the earth, in admirable reception of each other. The light of time is located in the house or angle of dignity; and the lord of the ascendant is in his own essential dignities, in the medium-coeli, all which are so many arguments of martial fame and glorious achievements, productive of immortal honour and renown. But, though this native's life was for the most part

thus eminently distinguished, yet his end was tragical and unfortunate, for he died by the hands of his enemies, in the forty-second year of his age, having at that time the ascendant directed to the quartile of the malefic planet Saturn, in the beginning of the sign Libra, and Saturn radically posited in the fourth house. And on the day he was routed by Cromwell in Lancashire, namely, on the 17th of August, 1648, Mars, in his revolution, was in the quartile place of the Moon, and Saturn stationary, to retrogradation, in the place of Mercury, lord of his ascendant; the Moon being then in opposition, and the Sun in the very opposite place of Jupiter; all which malicious transits in his revolutionary figure were eminent tokens of discomfiture and defeat in that ill-advised engagement; and this the rather, because the mid-heaven was thus directed to the opposition of Saturn.

In 1643, January the 3d, he was sent prisoner from Oxford to Pendennis Castle in Cornwall, where he continued until the year 1646. Saturn was then in quartile to the Sun, and Mars in opposition to the lord of his ascendant, and a very bad revolution he had for that year. But, towards the end of the year 1642, King Charles entertained him very honourably at court, and advanced him to considerable honours and employments. He had then operating the mid-heaven to the trine aspect of Jupiter.

On the day he was beheaded, being March the 9th, 1648, the Moon was in conjunction of Saturn; whose quartile was promittor in the direction of his death, and the Sun was upon the very degree of the eighth house of his nativity, nearly in opposition with Jupiter, and the fiery planet Mars had just passed the horoscope of his birth. Hence we derive the following arguments of a violent death: namely, Saturn opposing the Sun from angular houses; the Dragon's Tail on the cusp of the eighth house; Mars on the cusp of the fourth, in opposition to the tenth, and the Moon by her latitude in the eighth house.

The EARL of STRAFFORD.—Born in Lat. $51^{\circ} 32'$ viz. London.

This native was a person so singularly accomplished, that King Charles, after bemoaning his unfortunate end, and reflecting upon himself for consenting to his death, wrote as follows: “ I looked
 “ upon my Lord of Strafford as a gentleman, whose abilities might
 “ make a prince rather afraid, than ashamed, to employ him in the
 “ greatest affairs of state; for these were prone to create in him great
 “ confi-

“ confidence of undertakings, and this was like enough to betray him
 “ to great errors and many enemies ; whereof he could not but con-
 “ tract good store, while moving in so high a sphere, and with so
 “ vigorous a lustre, he must, like the Sun, raise many envious exha-
 “ lations, which, condensed by a popular odium, were capable to cast
 “ a cloud upon the brightest merit and integrity.”

To denote the eminent accomplishments of this noble personage, for the purposes of government and good policy, he hath Virgo ascending ; a sign which uniformly represents a native admirably ingenious and prudent. Mercury, lord of the ascendant, is in Taurus, with the Sun, the sovereign light of time, casting a trine aspect to the ascendant. Mercury is at the same time lord of the tenth house, and of the ascendant likewise, which is a certain presage of honour and dignity to the native, by the natural excellencies and endowments of his mind. It is nevertheless to be considered, that Mercury is combust of the Sun, and the Moon and Mars are in exact quartile to him ; configurations, which not only eclipsed the reputation of his great abilities, but argue that his relations and friends, as well as his enemies, should envy him the honour and preferments those great abilities procured him.

Mars, with the Sun and Moon, govern the eleventh, twelfth, and third, houses of the horoscope ; and Saturn being locally and virtually in the eleventh house, in opposition of Jupiter, shews the falshood and perfidiousness of his friends, and the violence and malice of his enemies ; and, to add to these discordant configurations, the cusp of the mid-heaven is the exact antiscion of Saturn, and the contra-antiscion of Jupiter.

When this nobleman was near forty years of age, he was constituted and appointed Lord Deputy of Ireland. He had then operating in his nativity, the Moon to the sextile rays of the Sun, and the mid-heaven to the antiscion of Venus by direction. At forty years old, viz. November 12, 1640, he was impeached for high treason. Mars was that day in opposition to the ascendant, and in quartile of Mercury, lord of the medium-cœli, and of the ascendant. On the 19th of November he applied for bail, but was refused. The Moon was then in opposition to Mercury, and the Sun in opposition to the tenth house. On the 23d of the same month he was committed to the Tower. The Moon was then in opposition both to Mars and to her own radical place in the geniture.

On

On the 28th of January, 1641, he was first impeached in the House of Commons. The Moon was at this time in opposition to Saturn's place, and Mars possessed the Sun's place in the radix. On the 30th of January, he was impeached in the House of Lords. Mars still occupied the Sun's place, and the Moon continued in conjunction with the Sun in the sixth house.

On the 15th of April, 1641, this native was declared guilty of the treasonable practices with which he had been charged. The Moon was then in opposition to the Sun, near his radical place; Saturn was in opposition to the ascendant; the Sun was in quartile of the place of Mars, and Mars upon the place of Venus, in the tenth house. On the 10th of May the King signed the warrant for his execution. Mercury was then stationary, and Saturn in opposition to the ascendant; and the Moon was in quartile of Mars and Venus. On the tenth day of the same month this native was beheaded, in the forty-eighth year of his age. The Moon was then in exact opposition to the Sun, and Saturn in opposition to the ascendant. But to shew a more eminent designation of these afflictions, and eventually the loss of his life by them, he had the mid-heaven directed to the conjunction of Saturn, and to the opposition of Jupiter. The Moon was likewise ten digits eclipsed in the very beginning of the revolutionary figure of that year, and Saturn and Mars were both afflicting the ascendant of the geniture. Thus fell this great and distinguished character, who was excelled by few in the bright ornaments of wisdom and understanding.

GEORGE VILLERS, DUKE of BUCKINGHAM.

Born in Lat. 53°.

h	South Latitude	1	o
u	South Latitude	1	o
8	North Latitude	o	o
2	North Latitude	1	o
3	North Latitude	2	o
D	North Latitude	4	o

This native was a remarkable favourite of King Charles the First; and indeed, to a person versed in the astral science, there can be no wonder, since there is such an astonishing sympathy in their nativities; for the signs are not only posited the same upon the cusps of the celestial houses, but Jupiter's place in the one nativity is the place of the Sun in

in the other; and the Moon's place is precisely the same in both. Such an harmony and similar coincidence of matter in the temperature and endowments of these two natives, could not but produce that remarkable concurrence of judgment, and familiarity of sentiment, which was uniformly discovered in the actions and manners of these eminent persons.

This illustrious native was not without his share of private enemies, who used every means to alienate the king's good opinion and favour towards him. But vain was the attempt; for, where the heavens form an unity of sentiment, it is beyond the subtlety of human invention to dissolve it.

In the year 1627, on the 27th of July, this native being then near thirty-five years old, embarked for the Isle of Rhee. The success of this undertaking by no means answered the expectations that had been formed of it; and which was before hand but too evident; for, on the very day he set sail, Mars was in exact quartile to his ascendant at birth, and to the Sun's place also; the Moon was in quartile to the place of Mars and Venus, and to the Sun, and in opposition of Jupiter; all which unfortunate positions previously declared the expedition to be as unsuccessful as it eventually proved.

In the year 1628, on the 23d of August, this native, being near thirty-six years old, was basely assassinated and stabbed at the Crown Inn, in Portsmouth, by a ruffian of the name of Felton. The Moon was that day in quartile of the ascendant at birth, and the sun in the radical place of Mars; and in the revolutionary figure for that year, the Moon was in exact quartile of Mars and Jupiter. And, besides this congress of malefic transits, which in themselves were alone sufficient to destroy life, there was a fatal direction operating at the same time, of the ascendant to the body of Mars. The grand argument of a violent death in this nativity, is the conjunction of the Sun and Mars, in the quartile to the lord of the eighth house, who is in conjunction of that violent fixed star, the Heart of the Scorpion.

WILLIAM LAUD, ARCHBISHOP of CANTERBURY.

Born in Lat. 52°.

♈	North Latitude	1	59
♋	South Latitude	1	44
♈	North Latitude	0	35
♋	South Latitude	0	10
♋	South Latitude	0	10
♋	South Latitude	4	50

Libra ascends the eastern horizon of this nativity, which is a sign of justice and mercy. Mercury, the true patron of science and learning, is in conjunction of Spica Virginis, in the ascendant; and Jupiter is in the ninth house, with Oculus Tauris in trine to Mercury, and the Moon and Venus are in friendly trine with the cusp of the angle of honour and dignity, and enjoy the same benign configuration with each other, and that from good places of the figure. To shew that the native would be learned and pious, there are several stars of the nature of Jupiter and Mars culminating, which in many genitures have been found to raise the native even from the lowest degree in the church to the highest honours and preferments of ecclesiastical jurisdiction and authority.

Another argument of the episcopal dignity of this divine, is deduced from the circumstance of cardinal signs possessing the principal angles of the figure: for, as the greatest actions of the world depend on the cardinal points of the heavens, viz. Aries, Cancer, Libra, and Capricorn, so the most eminent persons, such as rise to honour and preferment highly superior to their birth and expectancies, have those cardinal points upon all the angles of their nativities. Thus it was in the geniture of Cicero, whose parentage, if authors may be credited, was so obscure as scarcely to be known; yet was he elevated to such a pitch of honour, as to be called "*the father of his country.*" And thus it was with Oliver Cromwell; and may be seen in the genitures of a thousand others, who have risen highly superior to all their contemporaries, by having these cardinal signs thus fortunately posited on the angles of their figures of birth, with other concurring testimonies of dignity and honour.

If we carefully examine the constitution of this figure, we shall find the cause of this native's imprisonment, misfortunes, and violent death, to be very naturally pointed out. The lord of the twelfth house posited in the ascendant, gives many malicious private enemies, and denotes
imprisonment.



HENRY CORNELIUS AGRIPIA
Born Sep 11 1511 2 PM.
1486.
From Orphanus.



MARCUS TULLIUS CICERO.
Born Aug 3. 711 AM.
Anno Mundi 3813.
From Cardan.



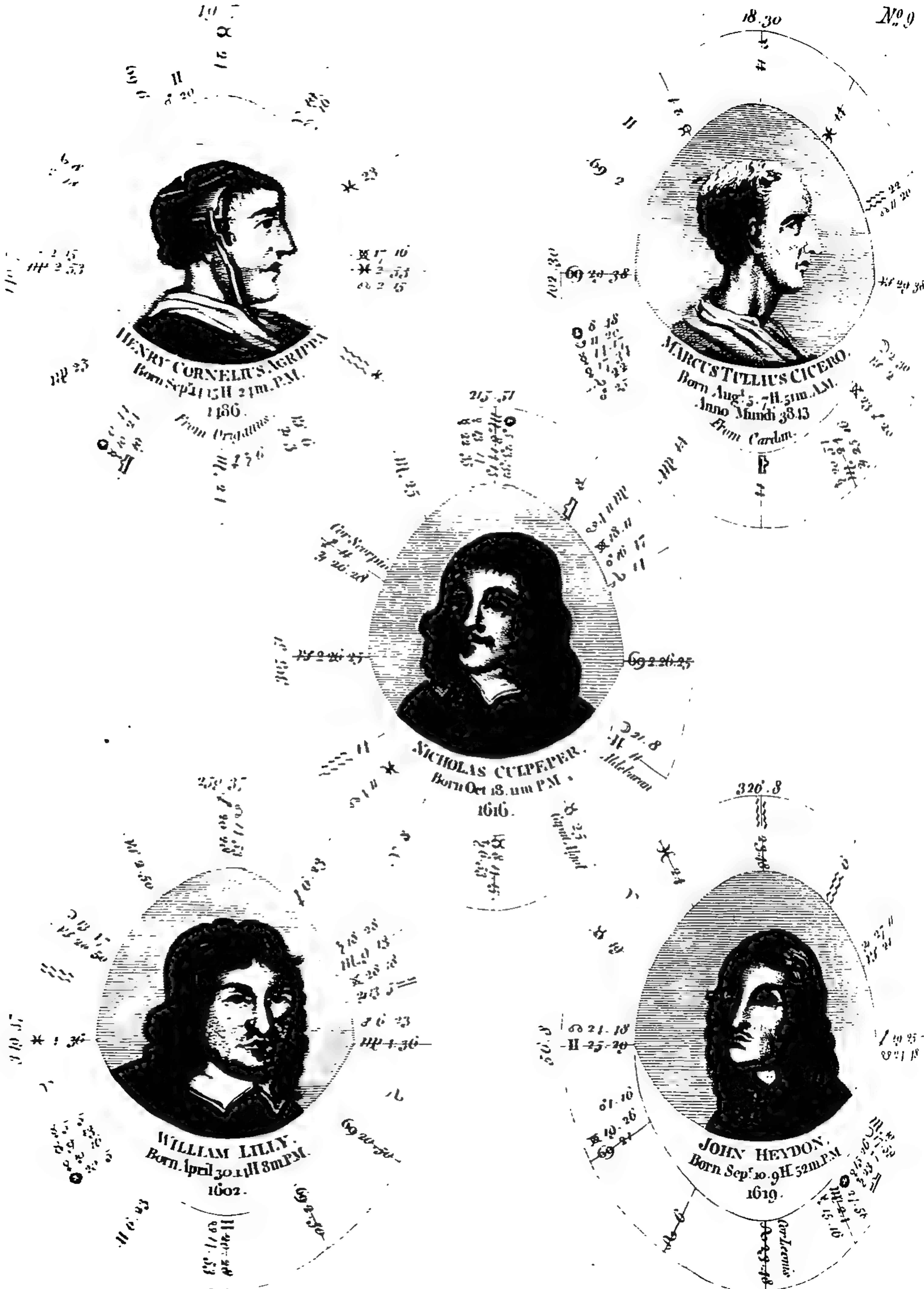
NICHOLAS CULPEPER.
Born Oct 18. 11 PM.
1616.



WILLIAM LILLY.
Born April 30. 11 30 PM.
1602.



JOHN HEYDON.
Born Sep 10. 9 52 PM.
1619.



imprisonment, founded on the principles of false testimony, of treachery and deceit. Besides this, the fiery planet Mars is upon the cusp of the twelfth house, in opposition to the Moon, and in quartile to her own dispositor; and that he should die a violent and premature death, is obvious from the position of Mars in opposition to the Moon, and the lady of the ascendant posited in a violent sign, in conjunction of Saturn, lord of the fourth house.

The mid-heaven directed to the body of Mars was the occasion of this native's imprisonment; and, according to Mr. Gadbury, from whom most of these nativities are taken, Saturn directed to the conjunction of the ascendant was the cause of his death. But, according to the *true Placidian method*, the Sun must be directed for death, because he is *Hyleg*, and Mars is undoubtedly the *Anareta*. For a proof of this, let the revolutionary figure for the year of the native's death be examined, where we shall find Mars in conjunction with the Sun, and Saturn located in the sixth house, in the sign Aries, the house of Mars; so that the two infortunes contributed to the untimely death of this celebrated divine, who for learning and abilities was equalled by few, and excelled by none.

CORNELIUS AGRIPPA.

The nativity of Cornelius Agrippa, as handed to us from the ancients, is displayed in the annexed plate. But, as this geniture has been considered, by all the professors of the astral science, not authentic; which indeed appears but too obvious from the discordancy of its parts, and from the impossibility of its admitting the test of rectification; I decline giving any remarks of my own upon it; and shall leave it, as he was an uncommon character, to the contemplation of those, who may hereafter rise to greater perfection in astrological enquiries.

MARCUS TULLIUS CICERO.—Born under the Latitude of Rome.

We have no right, if we credit Carden and Lyndbolt, to question the time of this celebrated native's birth. The figure exactly corresponds with the description of his person given us by Plutarch, which is that of a lean, weak, and sickly, temperate and constitution; which is aptly enough declared by the Moon in Capricorn, in the sixth house, she being lady of the ascendant, and Saturn her dispositor in quartile of the Sun, and Mercury approaching the ascendant from fixed signs. Now, concerning his manners and gift of speech, Carden describes him to
have

have possessed a loud and clear articulation, but that it was harsh, and the less captivating, on account of the deficiencies of his person and manner, which wanted grace and comeliness. This seems well pre-noted by the conjunction of Venus with Mercury in the ascendant, assisted by the presence of the Dragon's Tail, accompanied with Saturn's quartile, combuit of the Sun.

The honour and reputation which this native acquired is represented, in a very striking manner, by the essential dignities of the Sun, in trine aspect with Mercury, Venus, and Mars, in the angle of dignity and sovereignty; the Sun likewise having his exaltation therein. Jupiter, who is lord of the ninth, is in conjunction also of Saturn in the fifth house, and thence emitting his benign rays to the ascendant, which is an additional argument of very important acquisitions in the scale of honour and preferment.

Plutarch tells us, that Cicero's nurse was admonished by a vision to bestow the utmost care and attention upon the child then at her breast; for that he should become the most distinguished character amongst all the Romans; and yet he was but the son of a bond-woman, and of mean extract. This prediction, however, whether imaginary or real, was literally fulfilled; for he was twice made Consul of Rome, and, for the timely discovery and prevention of Catiline's conspiracy, he was surnamed by Cato, "*the father of his country.*" He died by assassination in the sixty-fourth year of his age, having suffered the chief misfortunes of his life in his grand climacterical year.

It is written of him, that, when he was sent into exile, he was forewarned of his death, by an uncommon flight of crows, which came and settled upon the mast and yards of the ship in which he was sailing; that, when he came on shore, the same flight of birds followed him to the house in which he was accommodated, and even forced their way through the chamber windows where he lay, close to his bed side. He was soon after betrayed by his own servant, a youth he had bred up, into the hands of Herrenius and Popilius Læna, who basely murdered him.

NICHOLAS CULPEPER, Student in Physic and Astrology.
Born in Lat. $51^{\circ} 32'$.

6	South Latitude	3	0
u	North Latitude	0	30
3	North Latitude	0	57
2	North Latitude	0	26
2	South Latitude	1	30
1	North Latitude	5	0

The sign ascending we find to be Capricorn, a sign of brevity ; and Saturn, lord of the ascendant in Taurus, another sign of brevity ; and the Moon located in the sixth house, decreasing in light, are all arguments of a middle stature, somewhat spare and lean ; a complexion dark and swarthy ; brown hair, long visage, quick eyes, active nimble body, alert, and full of agility ; which is described by the Moon's position in the house of Mercury, in sextile of Mars, with Saturn, and the other planets in the house of Venus, and having south latitude.

As to the manners, temperature, and constitution, of this native, he was melancholy and choleric, occasioned by an earthy sign occupying his ascendant, and Saturn's position being in an earthy sign also. The Moon with martial fixed stars, of the same nature in the ascendant, is a further testimony of a choleric habit ; but the greatest proof of a superabundance of choler in the native's constitution, is the Sun's reception with Mars from violent signs, which declares that choler should overpower the melancholy humour, and become predominant. As to his understanding, and mental acquirements, Mercury, the patron of ingenuity, &c. is the most potent planet in the horoscope ; and, being posited in Scorpio, the house of Mars, and so near the invigorating beams of Venus, is an evident demonstration that the native should be of an excellent wit, of a sharp acute fancy, admirable conception, and of an active brilliant understanding.

He was a very eloquent and good orator, and spoke both fluently and freely, but with much severity and satire, as the quartile of Mars and Mercury very aptly denotes. In his writings, he had a ludicrous turn, so inseparable from him, that, in things of the most serious and important nature, he would introduce subjects of levity and humour, which I presume was calculated more to please himself than his readers, though perhaps it was intended to do both. To this singular turn he is indebted to the joint influx of Mars, Mercury, and Venus.

As to matters of estate, he had the fixed sign Aquaries on the cusp of the second house, and the Moon and Jupiter casting their friendly rays to the same point, with the fortunate node of the Moon in the house of Jupiter; all which are testimonies of a competent fortune. Yet, opposed to this, we find the lord of the second house retrograde, upon the cusp of the fourth, in quartile to the second, and Venus his dispositor combust, in quartile of Mars, and in quartile to the second also; which are plain demonstrations of the loss of substance, and of the decay of his paternal patrimony. And hence we find, that Mars afflicting Mercury, with the Part of Fortune in an obscure part of the heavens, and the Sun lord thereof in opposition to Saturn, influenced him to squander away his estate, both carelessly and improvidently, even to the shocking extremity of restraint or imprisonment. This gave occasion to that jocular saying of his brethren of the faculty, that poor Culpeper was sorely afflicted with a "*Consumption of the purse.*"

However severely this reflection might be considered, its application was but too just. At the university, he was as free with his purse as with his pen, and cared not how little was left for himself, so that he could effect the happiness or welfare of others. And really, if he had not had the Dragon's Head in the second house of his geniture, he would have been perpetually poor; for the arguments of poverty in his radix are so uncommonly strong, through the propensity of his will, that, had he been born to the most ample estate, he would in a short time have squandered it away, and become penniless.

As to the native's kindred and short journeys, Mars is the principal significator thereof; and his position in the eighth is the most unfortunate place in the whole heavens. He is likewise in quartile of four planets, viz. the Sun, Venus, Saturn, and Mercury; which is a further proof of great unhappiness to the native from family disputes; and promises no great success in his short and inland journeys. Again, we find Aries upon the cusp of the third house, and Mars posited in a sterile sign, which shews a deficiency of brothers and sisters, or no harmony with them, in case of any. It were needless to repeat the many misfortunes this native sustained on account of his relations; or to recount the perils and dangers he encountered upon some of his journeys, it being sufficient to confirm the verity of this art, by affirming that he never gained any advantage by either.

With regard to his parents, we find Saturn, the general significator of fathers, and Venus, the representative of mothers, are in opposition;
and

and Mars, lord of the tenth house, in quartile to them both, from fixed signs, which clearly shews that the parents of this native would die before he was of age ; but, had they lived till he had come to years of maturity, I do not see how he would have been bettered by them, since their significators are every way found squaring and opposing his. By the account he gives himself of his parents, they died while he was young, and his mother's relations cheated him out of a good part of his estate.

As to the significators of wife and children, we have the Moon, lady of the seventh house, in a double-bodied sign, which seems to presage two wives ; but Venus, a general significatrix of wives, being combust of the Sun, and in an evil aspect of the infortunes, opposes this influence so powerfully, that, did she not cast a prolific beam to the ascendant, and another to the seventh house, the native would scarcely have ever married at all. Under these circumstances we deduce an argument for one wife only, which happened in course.

Venus governing the fifth house in Scorpio, a fruitful sign, irradiating both the ascendant and seventh, promises the native many children. But Caput Medusa being upon the cusp of the fifth, and Venus combust, in opposition to Saturn, and in quartile of Mars, in the house of death, declares very few, if any of them, should live. It afterwards turned out, that the native had but one wife, and by her he had seven children, and they all died young, except a daughter, who lived to years of maturity.

The native's public and private enemies are signified by the Moon and Jupiter ; but principally by Jupiter himself, because he hath great dignities in the twelfth and seventh houses. Mars has also a share in the designation of his enemies, because he is in trine of Jupiter, and in sextile of the Moon, and beholds the lord of the ascendant with a quartile ray. Now it is well known that Mars represents physicians, apothecaries, &c. and Jupiter divines ; and those two descriptions of men were really found to be the greatest enemies of the native, both public and private : the faculty hated him for simplifying the art of medicine ; and the church despised him for his superior knowledge in the astral science. Yet neither of them durst venture to dispute with him upon the simplicity of the one or the reality of the other, notwithstanding he gave several public challenges to both the colleges, to enter the lists with them.

We

We shall now take notice of the representatives of his friends; and here I am sorry to say, we have but few testimonies in their favour. Mars, lord of the eleventh house, being in quartile to four planets, denotes the native's friends, or at least such as pretend to be so, are hypocritical and deceitful; and of such covetous dispositions, that he would seldom be bettered by them. It is well known the native has often declared, that he had a few who called themselves his friends, but that he was more prejudiced than served by them; for that, when he most stood in need of their assistance, and promised himself the advantages of it, they generally deceived him.

With regard to honour and preferments, Origenus tells us, that the Sun in the tenth house is a certain presage of honour and preferment; and that Venus, when posited in the tenth, is a general significatrix of honour by the means of women; and also, that the Moon in sextile of Mars, and the Sun in reception with him, when he is lord of the tenth house, are evident proofs of future honour, fame, and renown. And indeed, had not Saturn, who is lord of the ascendant, been in opposition of the Sun, the general significator of honour, and in quartile of Mars, the native would certainly have obtained a far higher degree of eminence in life than he really did; but, although he was an enemy to his own preferment, yet, in the latter part of his life, he encreased very much in fame, honour, and reputation; and, if we enquire by what means, we shall find the sextile of the Moon and Mars, lord of the tenth, and Venus, lady of the ninth, locally posited in the tenth, and casting a sextile aspect to the ascendant, in joint familiarity with Mercury, lord of the sixth, the strongest planet in the figure; we shall not therefore be surprised to see the native arriving at a very elevated degree of fame, honour, and reputation, on account of his ingenuity, ability, and knowledge in the arts and sciences. This, however, is not likely to be obtained without much difficulty and opposition, as appears by the quartile aspect of Mars to Mercury. It is, I believe, very well known, that the native grew into public esteem, by means only of his great abilities, and superior understanding, particularly in physic and surgery, and of the sciences in general.

The cause and manner of his death, according to the astrologers of his time, are pointed out as follow. The fiery planet Mars, posited in the eighth house, in quartile to Saturn, lord of the ascendant, seems to portend a violent death; but the Sun being on the cusp of the mid-heaven, near the body of Venus, and in reception of Mars, with the Moon in the sixth house, abates much of the fury of Mars, and makes

it somewhat probable the native may die of a consumption, or by decay of natural strength and stamina. However this may be, he died on Monday the tenth of January, 1654, when the Moon was in quartile to the radical place of Mars, and the Sun in quartile to his own and to Saturn's place in his nativity; Saturn and Jupiter at the same time beholding each other with an opposition. From this position of the significators, it has been thought by some, that he was maliciously poisoned; and indeed, by the above configurations, it is not unlikely but some of the Esculapian tribe had a hand in his death.

The accidents or events by which this nativity is rectified are these. At eighteen years old, he went to the university: the Sun was then directed to the body of Mercury, and the ascendant to the sextile of the same promittor. At twenty-fourth years old, he particularly applied himself to the study of physic: the Moon was then directed to the trine of Mercury, her dispositor, in the radical figure of birth. At the age of twenty-seven years, he went into the army, and was wounded by a musket shot in the fore part of his body, of which he never recovered to the day of his death: at the time of this accident, the ascendant came to the quartile of the Sun, and soon afterwards to the quartile of Saturn, which prolonged and continued the malady. In the thirty-eighth year of his age, he died: the ascendant then came to the opposition of Mars with latitude. Upon examining and comparing the revolutionary figure with the radical horoscope, we find the strictest agreement betwixt them: Saturn passes the radical place of Mars, and re-occupies the ascendant; the Sun and Jupiter behold each other with a quartile ray; and Jupiter comes in opposition to the place of Mars, and in quartile to his own radical place likewise: which evil revolutions, agreeing with malefic directions, necessarily prefigure approaching death.

WILLIAM LILLY, Student in Astrology.—Born in Lat. 52°. 38'.

h	North Latitude	1	44
u	North Latitude	1	56
♂	North Latitude	1	27
♀	South Latitude	0	40
♂	South Latitude	2	47
♂	North Latitude	2	33

I shall only give the horoscopical figure, and the latitude of the planets in this nativity, because the native has given two different times of his
No. 45. 10 I his

his own birth, which might be seen in his Ephemeris, printed in the year 1645, and in another work of his, entituled, The Christian Astrology. And therefore, as I am an enemy to every species of double dealing, I shall content myself with pointing out the fraud, and leave others to make their remarks upon a nativity, which, having no certainty for its basis, can afford no amulment to intelligent minds.

JOHN HEADON, Chemist and Astrologer.—Born in Lat. $51^{\circ}.32'.$

h	North Latitude	2	3
u	South Latitude	0	18
a	South Latitude	0	19
g	North Latitude	0	38
g	North Latitude	1	23
d	North Latitude	3	15.

We have here the geniture of a person of an uncommon desire for searching into the occult mysteries, and for obtaining a knowledge of all the curious arts. This propensity is very aptly described by the great strength of Mercury, lord of the ascendant, in his exaltation, in sextile to Jupiter, and in trine aspect of the Sun, whereby the mental endowments of the native far excelled the common lot of mankind.

He wrote many curious books, which are now very scarce and valuable. His Temple of Wisdom, Holy Guide, Harmony of the World, Rosicrucian Physic, and several other mystic pieces equally curious, being far above the common scope of classical learning, were equally admired, envied, and abused, as best suited the purpose of each different reviewer. This is aptly described by the quartile of the Sun and Mars, the Sun at the same time beholding the ascendant with the same aspect, and Saturn beholding Jupiter with a quartile from cardinal signs. Mars posited in the ascendant, in quartile with the Sun, very aptly denotes imprisonment, resulting from the frowns and ill-humour of great persons, or men in power. This disgrace really happened to the native, in the troublesome times of King Charles, who detested him for the truths he told.

I shall omit entering into any particulars upon his nativity, because he has published it himself in the compleatest manner in his Harmony of the World, to which I beg leave to refer the curious reader.

JOHN

JOHN GADBURY, Student in Astrology.—Born in Lat. $51^{\circ} 45'$.

h	South Latitude	2	29
u	South Latitude	0	47
a	South Latitude	2	11
f	North Latitude	0	50
s	South Latitude	3	8
d	North Latitude	3	30

Mr. Partridge having taken great pains in the calculation of this nativity, and worked up its several directions according to the Placidian method, it were needless for me to go over the same ground, or to repeat any thing more in this place, than a few of the principal accidents whereby the horoscope of his birth is rectified, or proved to be radically true.

At eighteen years and ten months old, the Sun came to the parallel of Saturn in his nativity, by the rapt motion. At this time the native was afflicted with a surfeit, accompanied with a violent intermittent fever.

In the year 1651, when the native was twenty-three years and three months old, he was married. This happened under the direction of the Moon to the sextile of the Sun in mundo, by direct direction.

When the native was fifty-one years and eight months old, he was imprisoned. The direction that brought this up was the midheaven to the body of Saturn.

At the age of fifty-nine years and ten months, the native was married the second time. The direction producing this hymeneal contract was the midheaven to the triangular rays of Venus.

When the native sixty-two years and eight months old, he was involved in great trouble, and suffered confinement. This was brought to pass under the influence of the Sun directed to the parallel of Saturn in the zodiac, by oblique ascension.

At the end of seventy-seven years and three months from the day of his birth, viz. March 24, 1704, the native departed this life. The direction which foretels his death, is Mars to the parallel of Saturn, by the rapt motion, whereby the aphetical and anaretical beams, falling into one focus, absorbed the vital spirit, and separated the essence from the material body.

VINCENT

VINCENT WING, Student in Astrology.—Born in Lat. $52^{\circ} 40'$.

5	South Latitude	1	51
4	South Latitude	0	57
3	North Latitude	2	46
2	North Latitude	0	20
1	South Latitude	1	23
0	North Latitude	0	46

In this nativity Libra ascends the horoscope, and Spica Virginis, an eminent fixed star, is posited in the ascendant. Venus, lady thereof, is in Piles, in trine of the Moon in Cancer, in the ninth house, in an eminent reception of Jupiter. Mercury, the patron of arts and sciences, is in the sign Aries, in reception of Mars; and there are in the scheme no less than four planets essentially dignified, viz. the Sun, Jupiter, Venus, and the Moon; two of them in their exaltation, and two in their own houses. These are testimonies of an admirable signification and tendency, which not only procure credit and fame, but constitute the natural and proper support thereof, viz. a generous mind, with a competent estate. To render this the more eminent and durable, the Sun casts an amicable aspect to the Part of Fortune; as doth the Moon and Venus to the cusp of the second house.

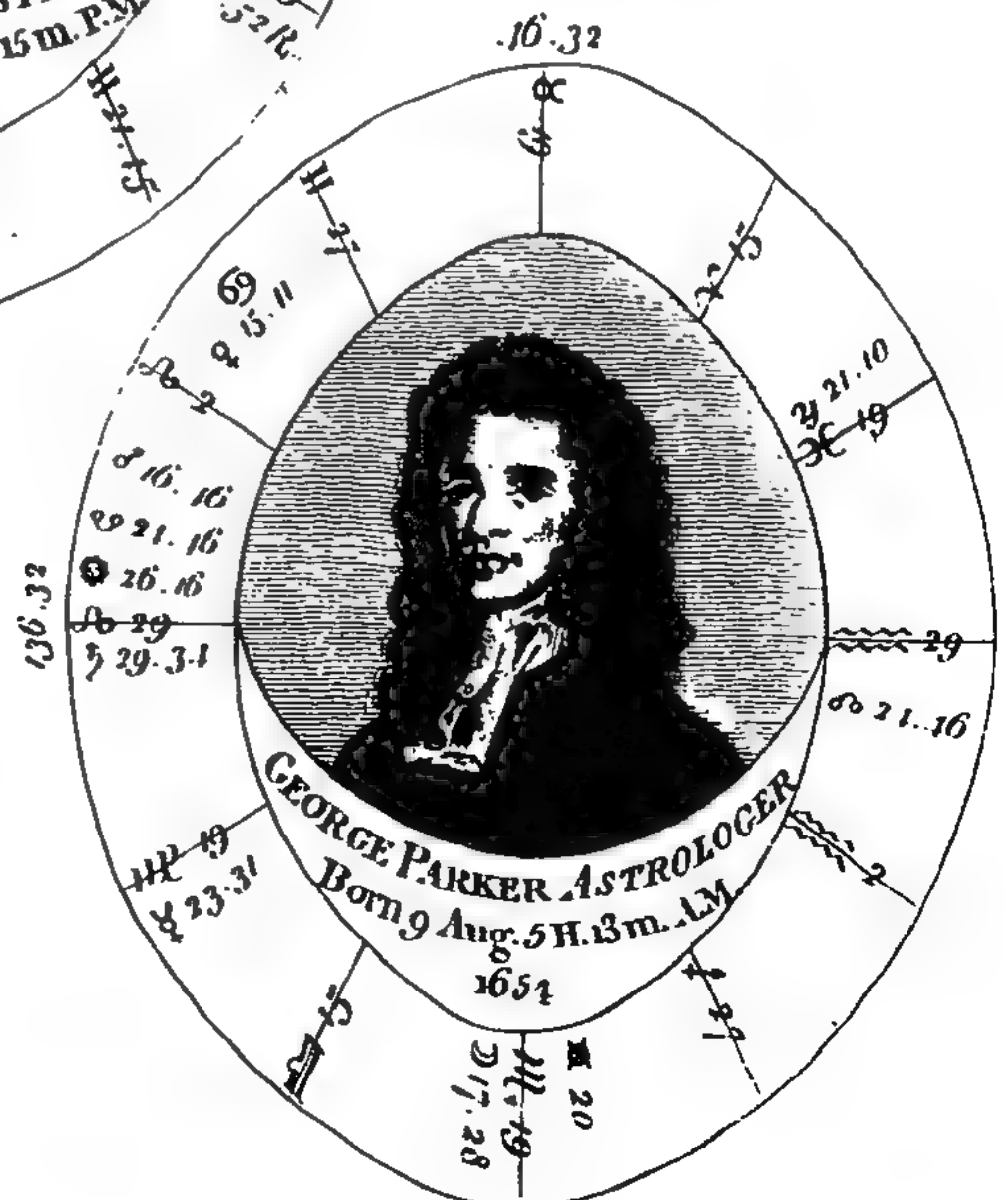
All the angles of the figure are possessed by cardinal signs; and in that respect he had honour and success in his profession as an astronomer; and was esteemed by the great, and regarded by all, as the wonder of his time, and the prodigy of the age in which he lived, for the eminent and famous things he did in the science of Astrology.

This native began to write for public information and utility when he was but twenty-two years old. He had then the Sun directed to the sextile rays of Venus, lady of the ascendant, in Taurus, her own dignities; which is an eminent argument of the happy and deserved esteem his writings met with in the world.

Many speculations and interesting conclusions might be drawn from this figure; but, as my design herein is only to give the rudiments whereby to initiate the young student into the art of bringing up directions, I shall only take notice of the manner of his death.

The Sun is without dispute the giver of life, and Mars and Saturn are the destroyers. The Sun is therefore to be directed to the quartile

of



of Mars in mundo, and to the conjunction of Saturn in the zodiac, and, immediately after such conjunction was formed, heightened by the beams of Aldebaran, it was natural to suppose the native would expire under the oppression of a consumptive or hectic habit of body; which really put a period to his existence on the 20th of September, 1668.

HENRY COLEY, Mathematician and Astrologer.

Born in Lat. $51^{\circ} 42'$.

♂	1	28
♂	0	22
♂	1	36
♀	1	13
♂	2	0
♂	1	59

When this native was between nine and ten years of age, he had the small pox; at which time the Moon was directed to the Virgin's Spike, upon the cusp of the eighth house. This direction is found by oblique descension, under the Moon's pole, viz. $50^{\circ} 4'$.

In the middle of August, 1644, aged ten years and ten months, the native was afflicted with a violent spotted fever and sore throat. This was produced by the ascendant to the opposition of Mars. At fourteen years of age he had a tertian ague. This was the ascendant to the quartile of Saturn.

When fourteen years and six months old, the native entered into the army. This inclination is pointed out by the Sun to the quartile of Mars in Scorpio. At seventeen years old, he had a dangerous fall from a horse, and was likewise in danger of being drowned. This is described by the conjunction of the Moon and Mercury in the eighth house. In September, 1652, the native was settled in a regular line of business; and then the trine aspect of Mars came to the mid-heaven. In April, 1654, the native went a journey to London, and was taken ill with a fever and surfeit. This was produced by the conjunction of the Sun and Moon in the eighth house.

On the first of May, in the year 1656, the native entered into the holy state of matrimony. This was occasioned by the force of the ascendant, directed to the opposition of Venus; which shews likewise that the marriage should not be very harmonious nor happy, nor of long

duration with respect to the life of the bride. This marriage, however, produced one child, which was born in June, 1657, under the ascendant directed to the quartile of Jupiter in a fruitful sign.

On the 24th of April, 1660, the native was married the second time, under the influence of the ascendant to the Dragon's Head; which, being a good benevolent direction, produced a good wife and a happy marriage. On the third of September, 1661, the native had a son by this lady, born under the ascendant directed to the trine of Saturn in Sagittarius and Aries, which are both masculine signs.

In the year 1663, the native published his *Clavis Elmata*, under the direction of the Sun in the sextile of Mercury. In May, 1672, he had a short but violent fever, which seemed to threaten life. This was produced by the ascendant to the opposition of the Sun. Upon his recovery, he greatly enlarged and improved his *Clavis Elmata*; at which time the Moon came by direction to the mid-heaven. In the year 1673, the native first wrote and published his so much celebrated Almanack. The mid-heaven was then in trine of the Moon.

These are the accidents given by Mr. Coley himself, for the purpose of rectifying and displaying his nativity; and are therefore to be relied on. Had this eminent professor of astrology understood the power of mundane aspects and parallels, he would have avoided many absurdities which appear in his works, and given less occasion for cavil and exultation to the enemies of the science.

Upon the whole, this nativity promises much on the score of ingenuity and invention, and has many testimonies of consequent reputation and eminence. First, Mercury is direct, and swift of course, and in reception with the fortunate planet Venus, which argues a clear understanding and an upright judgment, and is the forerunner of respect and esteem. Secondly, Mercury is in conjunction of Spica Virginis, an eminent and benign fixed star, which adds both to his mental and worldly acquirements. Thirdly, we find Mercury applying to a sextile configuration with Mars, in familiarity with another eminent fixed star. This endows the native with a lively imagination, and an excellent invention. Fourthly, Mercury's triangular rays cast to the ascendant multiplies all these arguments, and strengthens his title to public estimation and regard.

But here are other arguments in favour of worldly honour and esteem. First, because the lord of the ascendant is upon the very cusp of the mid-heaven,

heaven, which scarcely ever fails to produce public fame and reputation ; and, being in aspect with an eminent fixed star, shews that the native will never live in obscurity or disesteem. Secondly, Jupiter, lord of the mid-heaven, is in his exaltation, in trine of the Sun, which is a most illustrious configuration. Besides, the Sun being in reception of Mars proves that the native shall be in high esteem with the public. Yet Saturn's malefic position in the mid-heaven must needs reduce the happy effects of the foregoing indulgent stars, and give some cause of vexation and disappointment. Saturn being lord of the twelfth, the house of private enemies and imprisonment, and being posited in the tenth, denotes many strong and powerful enemies, and shews some restraint of liberty, with temporary loss of honour and reputation ; yet it nevertheless demonstrates that honour shall eventually court him ; and the malignity of his enemies be totally baffled.

The position of Mars in the seventh house, in opposition to the ascendant, renders the native obnoxious to a particular description of men ; which is also confirmed by the Sun's platic quartile to the ascendant, and the Moon's position in the seventh house, in platic quartile to the mid-heaven and to Saturn. But, since Mars and the Sun both befriend the native in a far more powerful degree than they afflict him, it is apparent that all consequent disputations will in the end turn out to the native's honour and advantage.

It is here worthy of remark, that this position of Mars in the seventh house is to be found in the nativities of three eminent professors of the astral science, who were all cotemporaries in the last age, namely, John Gadbury, William Lilly, and this native, Henry Coley ; all of whom had strong oppositions to encounter with their enemies ; but they lived to triumph over them, and to see their extirpation from the land of the living.

JOHN PARTRIDGE, Professor of Astrology.—Born in Lat. 51°. 32'.

♂	South Latitude	2	20
♂	South Latitude	1	9
♂	South Latitude	0	36
♂	South Latitude	1	28
♂	South Latitude	2	3
♂	North Latitude	2	18

This native rose, from a very humble sphere in life, to be physician to his majesty James the Second, King of England. In the figure we find

find Mars in his exaltation, and in reception of Saturn, with the Moon in opposition to one, and in quartile to the other. This configuration gave the native a very acute and satirical turn of mind. The strokes of his pen, when directed against his enemies, were poignant and severe; and, even when drawn in behalf of his friends, he could not help exposing their inadvertencies, and attacking their weak side.

In the grand endowments of solid sense and understanding, this native was in no respect deficient; as is apparent by the situation of Mercury with the Sun, in the scientific sign Aquaries; both which significators being in the trine of the Moon, and in sextile of their dispositor Saturn, afford the highest proofs of a mind enriched with every brilliant endowment.

That the native should be rich and fortunate, and arrive to the pinnacle of honour and preferment in human life, is apparent, from the position of the two fortunate planets, which behold each other in a sextile configuration, whilst the Moon, lady of the eleventh house, the lord of the medium-cœli, and the vital Sun, behold each other in a benefic trine. But this nativity, having been already most compleatly investigated, renders it unnecessary for me to speak of its directions.

GEORGE PARKER, Professor of Astrology.—Born in Lat. 52°. N.

♂	North Latitude	1	25			
♂	South Latitude	1	34			
♂	North Latitude	1	9			
♂	South Latitude	1	31			
♂	South Latitude	1	48			
♂	South Latitude	5	4			
Right ascension of ☉ is		-	-	-	228	30

Upon the ascendant of this nativity, we find the sign Leo, impeded by the evil and malignant planet Saturn, which exactly describes the native's person. Mercury and Jupiter being in opposition to each other, yet both in their own dignities, is a remarkable proof that the native's wit and judgment should be vitiated; but the Moon sending a trine aspect to Jupiter, and a sextile to Mercury, corrects this evil influence, and assists the native greatly. Yet, as she is disposed of by Mars in the twelfth house, it declares his enemies would be very powerful, and but too successful against him. His public enemies are described by Saturn and Mars; and the Moon personates his wife, and such as he once esteemed

esteemed his friends. After suffering a deal of trouble and affliction, it is apparent he will overcome all, since the Sun, the lord of the ascendant, is located in the ascendant, and is the strongest planet in the heavens, disposing both of Mars and Saturn.

Between twenty-three and twenty-four years of age, the native entered into the state of wedlock. This was effected by the planet Venus, directed to the sextile of the ascendant. When he was thirty-nine years and three months old, he was taken into custody and accused with forming a dangerous plot, but was cleared of this charge, under the aspect of the Sun directed to the opposition of Jupiter. The native wrote many small tracts, and was cotemporary with Henry Coley and John Partridge, by whom he was mortally hated, and who threw out many wicked invectives against him. He died in the year 1742, aged eighty-eight years.

JAMES USHER, Bishop of Armagh in Ireland.—Born in Lat. 53°.

h	South Latitude	0	21
u	North Latitude	0	32
♂	North Latitude	1	45
♀	North Latitude	2	47
♄	South Latitude	0	3
♅	South Latitude	1	6

Upon this horoscope we have Gemini ascending the eastern angle, with Mercury, its lord, in conjunction of Saturn, lord of the tenth and ninth houses, who is posited in the tenth, and casts a friendly trine to the ascendant, and to the planets Venus and Mars. These are eminent arguments of ingenuity and learning; and shews the native will inherit a more than ordinary capacity and understanding, because all the significators, which govern the mental faculties, are in aerial signs.

Boetius, speaking of this native, saith of him, that he excelled, with a most singular judgment, in the oriental languages, and in all abstruse and occult knowledge. Dr. Prideaux also styles him a rich magazine of solid learning, possessed of all the curious speculations of antiquity.

In this nativity we find six of the planets elevated above the earth, and Mercury, lord of the ascendant, in the most exalted part of the heavens, in conjunction with the Moon's fortunate node, and the sun-beams

occupying the cusp of the ninth house ; which, astrologically considered, portends the going out of his glory and fame into every part of the earth.

In the year 1600, and in the twentieth of his age, he was created a Master of Arts, a thing at that time of day not very common in either of the Universities ; it was therefore a greater demonstration of his piety and abilities, and of the respect paid him by the learned. He had then operating the Sun directed to the sextile of Venus, and to the mid-heaven also. In the year 1612, aged thirty-two, he was promoted to the dignity of a Doctor in Divinity ; at which time he had the mid-heaven directed to the sextile of the Moon. In the year 1624, and in the forty-fourth year of his age, he was created Archbishop of Armagh, and Lord Primate of Ireland ; though he was not put in possession thereof till two years after. He had now the Sun directed to the sextile rays of Jupiter, upon the cusp of the eleventh house, in the highest dignities ; and therefore most admirably significant of these honourable preferments.

Soon after this native was created archbishop, he was afflicted with a violent fit of sickness, which continued for nine months. The ascendant was then directed to the opposition of the Sun, and the Sun to the quartile of Mars, which direction, falling in Cancer and Pisces, denotes it to be of the putrid kind, and of long continuance. In the year 1640, being sixty years of age, he came to England, under the impulsive force of the mid-heaven directed to the quartile of the Moon, and the Part of Fortune to the sextile of Mars. He was requested in the year 1647, by the benchers of Lincoln's Inn, to engage constantly to preach before them, and they would allow him a considerable maintenance ; it being then the time of the Bishops' persecution. At this time he had the Moon directed to the sextile of Jupiter, and the ascendant to the trine of Venus.

In the year 1655, on the twenty-first day of March, this learned and pious churchman, after he had been seventy-five years a pilgrim on the earth, and fifty-five years a preacher of the gospel, died at Ryegate in Surrey. The directions operating were, the ascendant to the opposition of Saturn, lord of the eighth house of the nativity, and the Part of Fortune to the opposition of Mercury.



JAMES SHERBURN
Born Jan 4 14 3m. P.M.
1530



VASC-ERASMUS
Born Oct 27 16 3m. P.M.
1467
From Origanus



MARTEN LUTHER
Born Oct 22 14 10m. P.M.
1483
From Origanus



BISHOP HALL
Born July 15 1574



VASCIT PHILIP MELANCTHON
Born Feb 16 7 6m. P.M.
1497
From Origanus

N A S C-E R A S M U S, of Rotterdam, in Holland.
Elevation of the Pole 54° .

In this nativity we find Mercury and Venus posited in the ascendant ; a proof of volubility and freedom of speech ; and being also in an airy sign, beheld by a benefic trine of Jupiter from the ninth house, declares the native to be a person of strong natural parts, and rich mental endowments.

The learned Cardan has shewn, that the reason why this native abandoned his own country, and undertook so many complex journeys, was because the luminaries were in the dignities of Mars, with the lord of the ninth in the ascendant, in the conjunction of the lady thereof, in a moveable sign. The same ingenious author further observes, that while the mid-heaven was under the direction of the sextile rays of Venus, the native enjoyed times of happiness and rest. This was most completely felt about the thirty-fourth year of his age, but its continuance was short. His fifty-sixth year proved a most dangerous and unsuccessful one to him, for he then laboured under the baneful opposition of the Moon to Jupiter, stimulated by the quartile irradiation of Mars. He died in the seventieth year of his age.

M A R T I N L U T H E R.

The nativity of this celebrated divine is remarkable for having so many planets located in the ninth house. Saturn and Mercury are in conjunction, in the sign Scorpio, which afford a striking presage of the zeal and perseverance of his mind ; whilst the five planets in the ninth house declare his success in religious controversy. There is no need of pointing out the several directions ; they are already considered by the ingenious Mr. Gadbury ; and it will be no improper exercise for such of my readers, who have an inclination to become further acquainted with this science, to collect the several configurations and directions from the horoscope in the annexed plate, and to equate and bring them up, according to the rules heretofore laid down.

The directions of all these nativities, which are selected from Mr. Gadbury, by way of example, are so eminent and remarkable, and the characters of the different natives so well known, that they comprise a most excellent set of EXERCISES for any person desirous of learning the astral science.

BISHOP

BISHOP HALL.—Born under the elevation of the Pole of 53° .

h	North Latitude	2	32
4	South Latitude	0	39
8	South Latitude	1	40
2	South Latitude	3	19
8	South Latitude	1	1
D	North Latitude	0	8

The nativity of this eminent divine was found after his death in his pocket-book, written by his own hand; and, having been spoken of by many professors of the science, can receive but little new light from my pen.

This native was committed to the Tower, with eleven other bishops, when in the sixty-seventh year of his age. He had then operating the Dragon's Tail to the mid-heaven; and the continuance of his imprisonment is most aptly denoted by the testimony of the lord of the ascendant in the twelfth house, which is the only light of time above the earth. His death happened in the eighty-second year of his age, under the anaretic influence of a quartile of the Sun and Moon.

PHILIP MELANCTHON.—Born in Lat. $49^{\circ}. 5'$.

The horoscope visibly declares this native to be of short stature, and of a hot and dry temperature; but the testimonies of his excellent endowments are many and various. Venus in conjunction of Saturn, Mars in conjunction of Jupiter; the Moon in the exaltation of Mercury; Mercury in the scientific sign Aquaries; and Saturn and Venus in trine of Jupiter and Mars, are eminent arguments of the native's illustrious qualifications.

History abundantly furnishes us with instances of the native's astonishing prowess in the occult and refined arts, and in the doctrine of philosophy and divinity. He was a friend to every department of useful literature; and took great pains to purge astrology of its gross and mistaken parts, by translating the books of Ptolomy out of the original Greek, into pure Latin; in his preface to which he has most learnedly and ably defended the science from the lash of its ignorant and uncandid opposers.

GEORGE

II

♀ 29 - 12
♂ 27 - 16
♀ 25 - 45 R
♂ 13 - 21
Aldebaran

♂ 27 - 10
Pollux

♂ 27 - 14
Algol

♂ 27 - 11
♂ 22 - 11

♂ 27 - 14
♂ 1 - 21

♂ 23 - 11
♂ 21 - 8

♂ 23 - 11
♂ 21 - 8
Regulus



GEORGE III.

Born May 24. 7 H. 3m. 10 AM. 1738.

Calculated by the ingenious M^r. Charles Brent.

♂ 21 - 8
♂ 23 - 11

♂ 27 - 14
♂ 1 - 21

♂ 27 - 14
♂ 1 - 21

♂ 27 - 14
Spica

♂ 27 - 14
♂ 1 - 21

GEORGE III. KING OF GREAT BRITAIN.

Were I to enter minutely into a calculation of this nativity, the event might be prejudicial to many, and draw upon me the contempt of some and the resentment of others. Therefore, since it is my wish to give offence to no party, nor to stir up the embers of strife and dissention amongst the different orders of society, I shall content myself with making only a few remarks, whereby the inquisitive reader may be led to a contemplation of those celestial influences, which stimulate and govern the actions and pursuits of men, and form the basis of all sublunary events.

Upon the oriental horizon of this illustrious geniture, we find the noble and princely sign Leo ascending, with Caput Algol and the benefic Jupiter most gloriously elevated in the medium-cœli, the house of kingly honour, eminence, and unbounded sovereignty; which are true emblems of that universal joy, of that glory, honour, and renown, wherewith his majesty most deservedly ascended the British throne. As to the significators of temperance and disposition, no geniture in the world ever produced more evident proofs of that rectitude of principle, of that benevolence of heart and mind, of that regard to justice, mercy, and truth, which assimilates the human nature to the divine image of the Deity, and forms the interior of a patriot king. That the result has uniformly kept pace with this designation, I am sure no good man, nor any loyal subject, will deny.

The most remarkable circumstance in this geniture is the congress formed in the eleventh house; which it is my wish that every scientific reader would pay particular regard to; and I have no doubt but they will readily make out, by the rules heretofore given, a pretty correct preface of all the principal public occurrences that have happened during the present reign.

Whoever turns to page 166 of this work, will find it laid down as a fundamental principle in the rules of this science, that, by the constitution of the eleventh house, that is, of the configuration formed therein, we deduce all enquiries concerning friends and friendship, hope, trust, expectation, or desire; also whatever relates to the fidelity or perfidiousness of friends; or to the counsellors, advisers, associates, favourites, flatterers, or servants, of kings, princes, or men in power. The co-significators of which are the Sun and Aquaries.

I would now wish the planets in the eleventh house to be well considered, their tendency and designation ascertained, and compared with the revolutionary figures of the royal horoscope, in those years when any remarkable national event came to pass. The result would not fail to enlighten the understandings of most men, and would lead the mind to an unalienable love and attachment to the person and family of our most gracious sovereign.

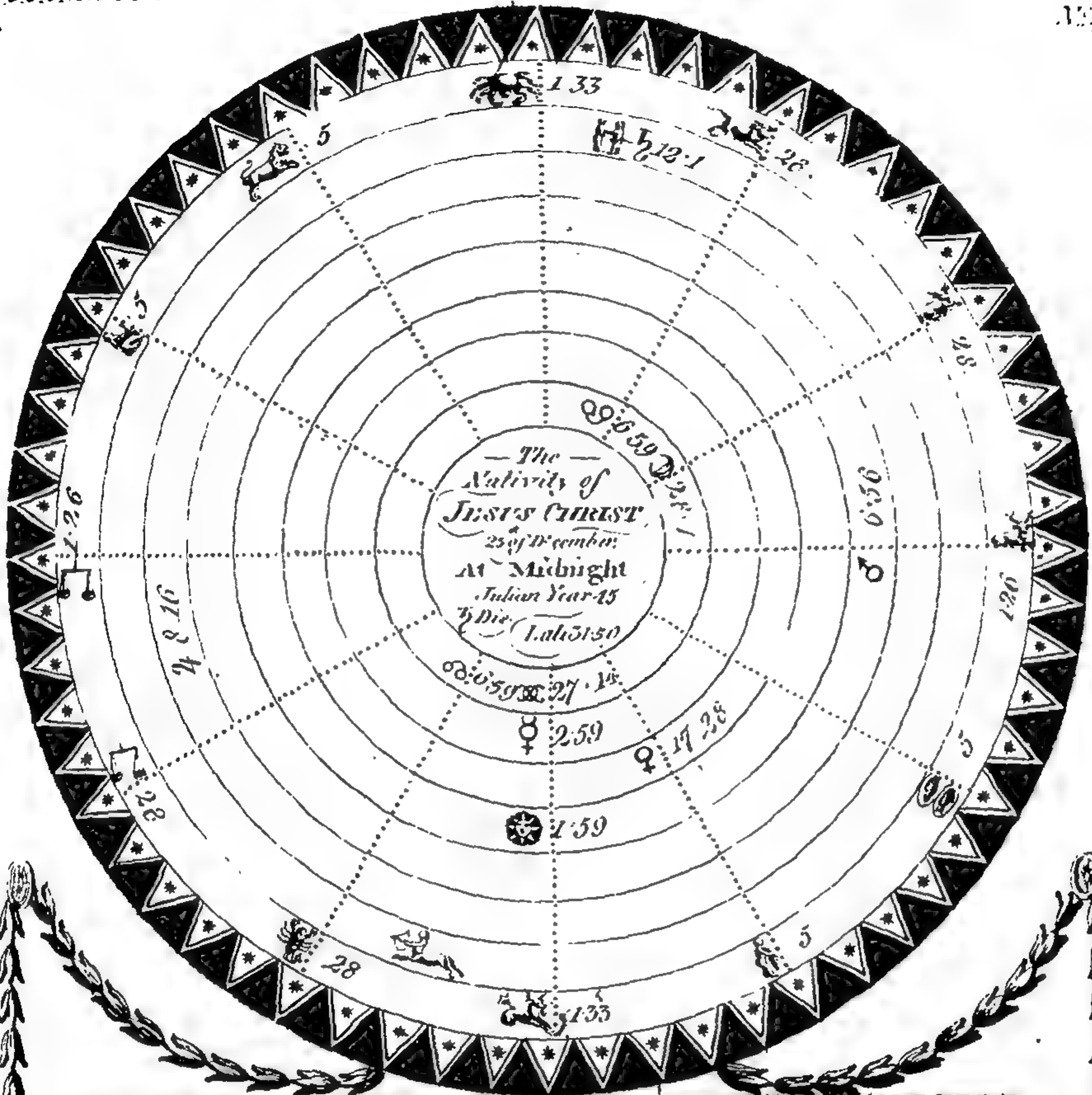
For example; let the radical horoscope, the revolutionary figure for the thirty-eighth year of his majesty's life, and the scheme of the American æra of independence, be projected by the side of each other; let the cardinal houses be well considered, with the manner in which they aspect or irradiate each other; and give the respective significators, as their positions are found to vary, their true and genuine implication, according to the known and established rules of the science; and I am bold to say, that no one will be at a loss to account for those unhappy events, which have seldom been attributed to the right cause.

The N A T I V I T Y of our Blessed L O R D and S A V I O U R J E S U S C H R I S T.

Upon this nativity I shall not venture to give any opinion of my own. It was calculated above a century ago, by that learned and ingenious author, Dr. John Butler, chaplain to his Grace James, Duke of Ormond, and Rector of Litchborough, in the county and diocese of Litchfield. He published it in an 8vo volume, with a very learned and ingenious introduction, supported by a set of Chronological Tables, calculated to place the day and hour of our Saviour's birth at a certainty beyond dispute; and, as that book has been many years out of print, and is now become very scarce and valuable, I have thought proper to copy that part of it, which contains the immediate calculation of this nativity, in the doctor's own words, without adding or diminishing from the text, or presuming to introduce any remarks of my own.

The geniture or figure of birth, displayed in the annexed plate, was also projected by this learned author, which I have carefully caused to be engraved from a corrected copy in the doctor's own hand-writing; and I flatter myself that the reputation this tract hath acquired in every part of Europe, added to the respectability and eminence of its author, will not fail to render it highly acceptable to the reader. The following extract commences with page 256 of the doctor's book.

Of



at the Birth of Christ, the Eastern Astrologers Worshipped Jesus . Mat. Chap. 2.

Of the punctual Hour of the Day, and Minute of that Hour, whereon Jesus Christ was born. Proved by the unerring Canons of Astrology.

♂	North Latitude	0 46	Ob. Asc. Ascen.	181 41
♂	South Latitude	0 42	Ob. Desc. ☉	271 45
♂	North Latitude	1 17	Ob. Desc. ♀	31 55
♂	North Latitude	0 41	Ob. Desc. ♀	312 59
♀	South Latitude	1 1	Ob. Asc. ♀	189 40
♀	South Latitude	2 2	Ob. Asc. ☉	294 7.
R. a M. H.	-	91 41		
R. a ☉	-	172 11		

That we may see at length how fitly the nativity of Jesus Christ suits with all passages of his life, as also with his qualities and complexion, we must first examine how the accidents of his life do lead us, as the star did the wise men, to the place, and to the moment of time when he was born. That Jesus was born at Bethlehem in Judea is past dispute. Here the longitude is commonly reputed different from the meridian of London in England (for which place our tables are framed) two hours and forty-six minutes: and by so much time, it seems, it is twelve of the clock at midnight with them sooner than it is with us. Here also, as is vulgarly esteemed, the pole is elevated at the nearest guess some thirty-one degrees of north latitude and fifty minutes. Now the time, as it is esteemed vulgarly, whereon Christ was born under this elevation, was the night before Saturday the twenty-fifth of December, in the forty-fifth Julian year ending, at what time the cycle of the Sun was nine, and of the Moon was one, and, the year being bissextile, the dominical letters were D C.

Now, that out of this night we may procure the certain moment wherein the blessed birth happened, we must first ascertain the accidents of his life. And these are as follows: First, his birth happened in an honourable hour; for on that very night both angels and men came in to adore him. Secondly, in the same year, and about forty days after he was born, persecution followed, and he was forced, young as he was, to fly for his life into Egypt. Thirdly, his return out of Egypt happened at almost or about two years of age.

At twelve years of age, and some hundred days over, he had great honour and praise, by disputation with the doctors in the temple at Jerusalem. At about twenty-five years of age, according to Suida, he was constituted a priest of the order of the four and twenty. At six days

days over twenty-nine complete years, he was baptized, and entered into his ministry; and at the same time was forty days tempted of the devil; and at the end of those was very contemptuously cast out of Nazareth by the rude rabble there. Yet, notwithstanding, he was very well received at Capernaum; and at Jerusalem he drove the buyers and sellers out of the temple. And lastly, after three years and three months spent in his ministry, at thirty-two years of age and one hundred and one days over, he was crucified upon mount Calvary, between two thieves, and died upon the cross. But, although he lived unto that time, yet it was about six months sooner, at what time the Jews conspired against him to kill him at the feast of tabernacles; and about two months before the time he was condemned by the Sanhedrim, and a proclamation was issued out to take him. Now may we find a time, according to the experienced rules of art, to suit fitly with all these accidents, and such a time as shall aptly describe him to be the man that in Holy Writ he is set forth to be. Then say I, It is a certain argument that both the day, hour, and minute, of Christ's birth are demonstratively determined. And so will all acknowledge, who know what Astrology is.

The DIRECTIONS of this NATIVITY, whereby the genethliacal Scheme of Birth is verified.

	ob.	af.	a.	d.	ye.	d.	
☿ to Algol's Head	32	7	0	12	0	74	} The flight into Egypt.
M. H. to ☿ ☉	92	11	0	30	0	185	
☉ to ☐ ☿	294	45	0	38	0	235	
☉ to ☿ with Lat.	271	36	0	7	0	40	
To ☿ without Lat.	272	42	0	57	0	352	
M. H. to ☿ ☿ at	93	8	1	27	1	172	} The return.
Asc. to ☐ ☿	183	22	1	41	1	259	
☿ to Ter. ☿ ☿ ☉	34	7	2	12	2	85	
☿ to Flying Vult. ☿	518	0	0	0	0	0	} He increased in wisdom
☿ { To Ter. ☿	192	43	3	3	3	35	
☿ { To ☐ ☿	193	54	4	14	4	108	
☿ { To ☐ ☉	36	45	4	30	4	206	
☿ { To ☐ ☿	37	26	5	31	5	218	
☿ to ☐ ☿	0	0	0	0	0	0	} Bodily distempers and worldly affronts.
M. H. to ☐ ☿	97	33	5	52	5	348	
Asc. to ☿ ☿	188	5	6	24	6	180	
M. H. to ☐ ☿	99	22	7	41	7	331	

	ob.	af.	a.	d.	ye.	d.	
Afc. to ♃	190	1	8	20	8	166	Healthful.
♃ to ☿	42	11	10	16	10	152	Slanders.
♃ to △ ♀	100	13	10	33	10	243	A pleasant time.
♀ to * ♃	324	57	11	58	12	52	The disputation with the doctors.
⊕ { to △ ♃	306	15	12	6	12	119	
⊕ { to △ without Lat.	0	0	12	14	12	138	
Afc. to △ ♃ Lat.	193	58	12	17	12	169	
Afc. to △ ♃ without L.	194	1	12	20	12	193	
IXth to △ ♃ Lat.	73	46	12	5	12	101	Gain by old folks.
⊕ to △ ♃	310	3	15	56	16	61	
♃ to contra-an. ♀	48	37	16	42	16	345	His mother ill.
☉ to contra-an. ♃	289	5	17	20	17	214	His father ill.
IXth to ☿ ♃	77	43	16	8	16	98	Scorned at for his piety
♀ to * ☉	329	22	16	23	16	278	Favour of great men.
Afc. to △ ♀	200	24	18	43	18	361	A very pleasant time.
⊕ to ☿ ♀	315	56	21	49	29	52	Honoured for his piety.
IXth to △ ♀	83	48	22	3	22	136	
♃ to ☐ ♀	54	23	22	28	22	291	Scorned and hated for the same.
♃ to ☿ ♃	212	35	22	55	23	92	
♃ to Rig.	56	10	24	15	24	221	Elected into the order of the four and twenty.
♀ to ☐ ♃	340	24	27	25	27	299	
♃ to * ☉	217	16	27	36	28	0	Respect from great men for his religion.
☉ to ☐ ♃	99	45	28	0	28	150	Great affronts from all sorts of people for his piety and religion.
♃ to * ♀	218	19	28	39	29	25	In Jan. he was baptiz- ed, and began to preach, and was successful in gathering disciples.
M. H. to ☐ ♃	120	8	28	27	28	317	He was by means of this affronted and cast out at Nazareth.
IXth to Castor's Head at	0	0	0	0	29	&c.	His ministry.
♃ to the Goat	63	7	31	12	31	240	
M. H. to Hydr. Heart	122	37	31	12			
Afc. to ☿ ♃	212	50	31	9	31	222	He was crucified.
Afc. to ☿ ♃ with Lat.	213	2	31	21	0	296	

Now, as Christ had a real body made of a woman, so was it no small argument of the reality of his body, in that it submitted unto the impressions of the stars, as do those of other men. For, although the immeasurable power of the spirit upon him was able to sway, and did sway, all impressions and inclinations of nature, so as to subject them absolutely to be obedient in all things unto the commands of his holy will, yet were not only the complexion of his body, but also the qualities of his mind and affections, much of them pressed and wrought by the power of the heavens. Only excepted, that, whereas he was born without sin, neither evil planets, nor evil aspects of any planet, could have that advantage to work upon his manners and disposition, so as to incline them with such command as they do by others. But, as for the accidents of his life, in respect of what befel him, as for matter of love or hatred, sickness and health, life and death, the stars had as free and full liberty and power over him and his body as upon any the least of us. For, though he was able, by special authority of his own, to force the utmost power of stars, or heaven, yet herein lay his humility, and his charity in that humility, in that he voluntarily submitted his body to be ordered according to the course of nature: whereas, would he himself, he might have made it lord over all that nature could do. And, though he raised the bodies of others from death unto life, in despite of nature, yet would he suffer his own body quietly to be ordered even as nature would herself.

These things considered, next come we to measure the time between the accidents of life and time of birth. It is observed, and a continued experience has verified it according to observation, that, (unless some special interruption intervene, either by a transit, or some revolution utterly crossing,) from the significator in a nativity unto the promittor of the thing signified, there are ordinarily so many times one year and five days and eight hours as there are degrees either of ascension or descension between the one and the other. The most remarkable accident of Christ's life, that we can work by, was his death, and the manner of it, at the end of thirty-two years and an hundred and one days after birth. To bring this about, the Moon claims nothing as a significator. The Sun seems to proffer something, as if his direction to the quartile of the Moon should proclaim some such matter. But then the Sun, being neither giver of life, nor years, in this nocturnal geniture, could hardly have suffered so fatally by that quartile, that death should follow upon it. And besides, upon examination it appears, that that direction came up some years too soon for thirty-two, in what position soever placed under ground. And now therefore, if neither Sun nor Moon were
actors

actors in suffering that direful fate, then it follows, that certainly it was that point of the scheme which is called the ascendant. And, if so, then it was either the direction of the ascendant to the quartile of the Sun, (and thus it was a ten-o'clock birth, and Virgo ascended,) or it was the opposition of Mars a quarter of an hour after the same, Virgo ascending. Or it was the opposition of the Moon, and then was it a midnight birth, and Libra ascended; or it was to the opposition of Saturn, and then was it a birth at almost half an hour past eight in the morning, and Scorpio ascended. But, of all these, none will suit with a description of the person, and the other accidents of his life, but that of the ascendant to the conjunction of the Moon. The Moon at midnight of the fore-mentioned day, we find in the sign Aries, and in twenty-eight degrees and one minute thereof, upon the cusp of that which is called the eighth house of heaven, or the house of death; and there is she nearly in conjunction with a star called Algol's Head, which is one of the most malignant stars in the whole heavens, and disposed of by the planet Mars, who is the lord of the native's professed enemies, and also of death. The Moon of herself is naturally a giver of life; but, as she sits upon the house of death, and disposed of as she is, she signifies a murderer: and, as for the persons she should work it by, they are the common people and rude rabble, and especially women, whom she naturally represents; and the chief magistrate of the place, whom also she represents by accident, by virtue of that dominion which she claims in the tenth house, or house of honour and dignity; and some ecclesiastical person or persons by accident also, as she hath dominion in the ninth house; and lastly soldiers, as she is disposed of by Mars, who naturally signifies men of war. Now, all these significations so fitly meeting in the Moon, and she so aptly representing a murderer, how readily stands she to serve our purpose? To proceed therefore, we find the oblique descension of her in that degree and minute to be two hundred and twelve degrees and fifty minutes: but, if we consider her latitude, the oblique descension will prove two hundred and thirteen degrees and two minutes. Next, as for the time when the ascendant fell under this direful direction, we must allow some time for the strength of constitution, which this scheme, posited after this manner, seems to afford the native to wrestle with the strokes of death. For Jupiter, a benevolent planet, lord of the sixth, and in the ascendant, together with his antiscions in the sixth, and a sextile of the Sun lighting there also, bespeaks an healthful body, and of a very strong constitution, and lustily able to struggle with its destinies, before death shall get the mastery. Wherefore we must not lay the ascendant under the opposition of the Moon just upon the very day of death, but some weeks before it. And, seeing we have an opposition, first without lati-

tude, and then with it ; we therefore lay the introduction to this fatal murder first, under the opposition with latitude, and that was at the end of the feast of tabernacles, at what time the Jews first took up stones to stone him ; but he escaped away and hid himself ; and this was somewhat before the very day of his nativity, at the end of thirty-two years of age, on the 17th of October. Now, between the opposition without and the opposition with latitude are seventy-four days, and, during this time, Jesus was struggling with cross fates, and preached privately in Judea, and not openly, for fear of the Jews : only, at the feast of dedication, he appeared in vindication of the blind man, unto whom he had given sight. But at that feast again, took they up stones to kill him, and they sought to take him, but he escaped, and went away beyond Jordan : and this was about the twenty-fifth of December, at thirty-two years of age : and yet he lived three months still after that, but then it was as a wounded person, all the while debating with death : for the Jews condemned him to die absolutely, and laid wait to take him, and he could not walk openly among them any more, but went away beyond Jordan unto Ephraim on the borders of the wilderness. To measure therefore from the 17th of October, or the morrow after the feast of tabernacles, in the thirty-second year of Christ almost ended, unto the day of his nativity, there are thirty-one years and two hundred and ninety-seven days ; which, turned into degrees after the rate of one year five days and eight hours to a degree, (as was before mentioned,) do make thirty-one degrees and twenty-one minutes ; and these again subtracted from the oblique ascension of the Moon's opposition in Libra, twenty-one degrees one minute, which is two hundred and thirteen degrees two minutes, do make the oblique ascension of the ascendant to be an hundred and eighty-one degrees forty-one minutes ; and that oblique ascension, under the elevation of thirty-one degrees and fifty minutes, places the ascendant of this nativity in the sign Libra, one degree twenty-six minutes ; and from the oblique ascension of the ascendant, one hundred and eighty-one degrees forty-nine minutes, subtracting ninety degrees, the right ascension of the mid-heaven must be ninety-one degrees and forty-one minutes ; and the right ascension placeth the mid-heaven itself in the sign Cancer, in one degree thirty-three minutes : and now again subtract we the right ascension of the Sun, which is two hundred and seventy-two degrees eleven minutes, from the right ascension of the mid-heaven, which is ninety-one degrees forty-one minutes ; or, because that cannot be, from four-hundred and fifty-one degrees forty-one minutes, which is the addition of the whole circle of heaven to the right ascension of the mid-heaven ; and the remainder is one hundred and seventy-nine degrees thirty minutes of the equator, which, turned
into

into the hours and minutes of the day, do bespeak the equal time of Christ's birth to have happened at eleven hours and fifty-eight minutes in the afternoon, to which add one minute and thirty-eight seconds for equation, and the apparent time was eleven hours, fifty-nine minutes, and thirty-eight seconds, which comes within a small matter of midnight.

The time of birth being thus proposed, I calculate all the planets' places for this time, and direct them to their promissors, together with the ascendant, mid-heaven, and the ninth house, in order to suit all other accidents according to this time, that by so doing, it may appear, according to the most experienced rules of Astrology, we have laid the time right. And, this being done, it appears first, that the angels adored him; but this act had nothing of the stars in it. Then, that the shepherds came and published his glory all over the city, and in thirteen days after came the wise men from the east to worship him; all these were nothing else but the fruit of famous transits at the time of birth: the Virgin's Spike and Arcturus (two great and noble stars) were newly gone by, and, being within orbs, drew after them a goodly grace of honour and glory; Jupiter, who accidentally represented shepherds, as he was lord of the sixth house, and naturally signified religious persons, or royal priests, being in the ascendant, and near upon the cusp, was much about rising, when the shepherds entered, and drew the priestly kings out of the east to visit him; the Sun, also a significator of honour, was in conjunction of Venus, who had dignity in the ninth, and with the Flying Vulture, a royal star, and the famous Fomahaut, by latitude, was within his beams, with these transits accompanying these honourable directions. First, the mid-heaven was nearly coming up to the opposition of the Sun, and the ascendant was hastening after to the quartile of the same, and the Moon also was nearly in trine of the Sun and Mercury. But that which came nearest to the purpose, was the Moon to the conjunction of Algol's Head, at the end of twelve days and odd hours, at the very point of time as the wise men came. Now this Algol's Head is a star of Saturn and Mercury, and, though it be a mischievous star, yet it signifies preferment, though it be with a vengeance at the heels of it. And so it was here. For, the wise men being gone, Herod, by means of their coming, plotted Christ's murder, and forced him to flight. The mid-heaven also to the opposition, and the ascendant to the quartile, of the Sun, acted much such another part as Algol's Head did, giving honour of kings, though not without a mischief in it. But the Moon in trine of the Sun and Mercury, argued an aptness of the native to be honoured both of kings and priests, and of all men in authority.

And, although these directions came not up until above four years after, yet, by means of good transits, the virtue of them distilled so long before.

After these things followed the flight into Egypt within the first year. And this needed no more anger than from what directions gave the preceding honour, as the Moon to Algol's Head, at thirteen days of age; for here Herod plotted his murder; and the mid-heaven to the opposition of the Sun at an hundred and eighty-five days end; and the ascendant to the quartile of the Sun at two hundred and two days end; and to Mercury at three hundred and fifty-two days end; for all this while was our Lord and blessed Saviour a stranger in a strange land, and an exile who durst not shew his head, neither durst his parents be known, who, or what, or where, he was. The Sun to Mercury as lord of the twelfth house, signifies a mischief by means of private enemies; and yet, as Mercury was also lord of the ninth, it helped out of that mischief, by means of a long journey: with these also accompanied the Part of Fortune to a quartile of the Moon at two hundred and ninety-three days end; and the mid-heaven to the opposition of Mercury at one year's end and one hundred seventy-two days: and lastly, the ascendant to the quartile of Mercury at one year's end and two hundred and fifty-nine days, (for so long continued our Saviour's exile in Egypt.) But when the Moon entered into terms of Venus in Taurus 00, at two years of age and eighty-five days, he returned home with his parents. At much about the same time came Mercury also to the Flying Vulture, and Jupiter to the North Balance with latitude: and at three years and thirty-five days came Jupiter into his own terms: and at four years and one hundred and eight days, he came to a trine of Saturn: and a little after, at four years and two hundred and six days, the Moon gained the trine of the Sun: and in the next year, at five years of age and two hundred and eighteen days, she attained to the trine of Mercury: and Saturn about the same time came to a trine of Venus. Now during these times Jesus greatly increased in wisdom; and, besides that, the grace of God was mightily upon him. These things aptly furthered his great parts by nature. But at five years and three hundred and forty-eight days, the mid-heaven occurred to the quartile of Mars: and at six years and one hundred and eighty days, the ascendant was encountered with an opposition of the same. And during these times Jesus wanted not his share of worldly crosses: he seems to have been laden with quarrellsome affronts, and likely enough it is that his parents suffered in the same way, if they escaped sickness, and losses in estate and honour. Moreover, our

Saviour seems to have tasted some sharp distempers of body himself, or else very great wrongs from his enemies. But storms last not for ever: the ascendant came to Jupiter, at eight years and one hundred and sixty-six days, and gave him a very halcion time; and he then lived in much love of neighbours and kindred. At ten years and one hundred and fifty-two days, he seems to have encountered some more misfortunes, or else his mother bore them for him, by means of the Moon falling into the pit called the Dragon's Tail. But within three months after, Jupiter coming to the trine of Venus gave him great content, whether it was by means of some long journey, or by reason of the pleasure of his studies, or both: however, it was a pleasant time, and the world seemed to welcome him with some of her favours.

But, at the end of twelve years and some three months over, he began to be taken notice of publicly for his great wisdom and parts. Venus was lady of his ascendant, and also principal significatrix of his mind. And, at twelve years of age and fifty-two days over, she came, by direction, to a sextile of the Moon's dispositer of his honour and advancement; which is as much as to say, she introduced him into a lucky vein of being well accepted for his inward worth, and excellency of mind, amongst men of power and authority. And the virtue of this good direction wrought to purpose at the passover after, at the latter end of March, about some forty-one days after the direction happened. But, from this time forward there is no question but he was every year more and more noted and admired, as he came yearly up to the feast at Jerusalem; for at twelve years and one hundred and nineteen days, which was but a month after the passover, the Part of Fortune came to a trine of Jupiter with latitude, and about seventy-four days after to the same trine without latitude; and at one hundred and sixty-nine days over twelve years came up the ascendant to a trine of Saturn out of the ninth house, with latitude, and eighteen days after that to the same trine without latitude; and these are directions to credit a man, amongst ancient and serious people, to purpose. But that which hit nearest upon the very week, was the direction of the ninth house unto the trine of Jupiter with latitude, which happened at the end of twelve years and one hundred and one days, at the beginning of April, presently after the passover week; and the same house came to the same trine without latitude about forty days after. But, however, the directions preceding and succeeding all concurred to heap up the glory of his disputation amongst the doctors. Also these kind of directions made him dextrous at his calling too, in building houses, and following his business seriously, and with great industry. After this, at over sixteen, came the Part of Fortune to a
trine

trine of Saturn, and that was good, but had relation chiefly to his trade, as if he had gained by it in dealing with elderly people. But, half a year after, the Moon to the contra-antiscion of Venus was ill either to himself or his mother, or both. And at over seventeen, the Sun fell under the contra-antiscions of Saturn, and that seems to have been grievous to his reputed father. At sixteen years and ninety-eight days, the ninth house came up to the body of Saturn, and then no doubt but he was sufficiently unhappy in his grave councils, and met with more derision than attention. And they, who formerly had applauded his wisdom, would be apt enough now to betray their own weakness, in changing their story. Yet Venus coming to the sextile of the Sun a little after, in the same year, would not only allay much of that disparagement, but also would be raising friends amongst the more prudent sort of powerful persons, to reprove and bridle the licentious lips of envious and upbraiding tongues. At eighteen years and three hundred and sixty-one days the ascendant happened upon the trine of Venus, and that was an healthful and a pleasant time, cleaving off the reproaches of Saturn and envious people. At twenty-two entering, the Part of Fortune fell into the lap of Venus in the fifth house, and rendered a time religiously pleasant. And at twenty-two years and one hundred and thirty-six days, the ninth house got out of the clutches of envious Saturn, and encountered a trine of Venus, in the sign Gemini. And this undoubtedly gave him to see savory fruits of his good counsels and grave admonition, to his great contentment. But towards the year ending, the Moon coming to the quartile of Venus interrupted the pleasant progress of his affairs. And, in the twenty-third year well entered, he met with great opposition, as well from men in power as the rabble rout, greatly gainsaying his sacred conversation, and this by means of Jupiter falling under the Moon's opposition, both without and with latitude. At twenty-four years of age, and two hundred and twenty-one days, came the Moon to the Foot of Orion, called Rigel; at what time might possibly happen the preferment into the order of the twenty-four, spoken of by Suidas, of which he never made either profit, use, or advantage, unless it were by accident. At twenty-seven years and two hundred and ninety-nine days, Venus, lady of the ascendant and of the ninth house, fell upon the quartile of Saturn; and this administered unto him much of trouble in his mind, and of disturbances in his religious courses, and perhaps he met with some wrong in his journey to the feast of tabernacles, which happened about that time. At twenty-eight years of age complete, Jupiter attained unto the sextile of the Sun, and that administered unto him much favour and respect from persons of quality. But, the Sun being at the very bottom of heaven, it seems as if all his greatest

greatest friends favoured him, like Nicodemus, more by night than by day. At one hundred and fifty-days over twenty-eight years of age, the Sun was encountered with the quartile of the Moon. And at this time, John the Baptist entering into his ministry, Jesus seems greatly to have been affronted by people of all sorts. It is very likely too, that old Joseph, his reputed father, yielded unto nature about this time ; for the Sun signifies parents. And whether it was when Saturn came to the opposition of the Sun, or now that the Sun came to the quartile of the Moon, we cannot certainly determine ; but much about this time it seems he left this world for a better.

But now the time draws on, wherein Jesus began to shew himself the Christ ; at this time he was baptized of John in Jordan. His kingdom was not of this world, neither was his ministry of men, or by man's authority, but by a divine commission ; and by signs and wonders it was confirmed to be so. We cannot therefore expect influence from heaven for those things which come from beyond heaven ; nor must we expect a commission from the stars for those miracles he acted as it were in defiance of them. And, as for what applause followed by virtue of those miracles, we must look for the reason of it from the Maker of all things, rather than from any created being, though never so much exceeding all other creatures. Yet, for such natural passages as amongst his miracles did accrue, we cannot debar nature from executing her office still. And first, we find him thrust out contemptuously and rudely at Nazareth, with great scorn unto his sacred function ; insomuch that he removed his household upon it unto Capernaum. And in this great affront his mother also seemed not a little concerned, who removed her household with him, from where she seems to have been bred and born, unto a strange place. Now at this time the mid-heaven, the significator of Christ's honour and his mother's person, came to quartile of the Moon, which very fitly suits with all that happened. The direction came up on the sixth of November, before the twenty-eighth year was quite run out. But the malice of it lasted not only unto this affront, which was acted in March of the twenty-ninth year entered, but also unto the passover following, whereat it encountered him with much snarling of the Jews against him, notwithstanding all his great miracles. And worse would it have proved, but that Jupiter, the natural significator of his divine function, came to a trine of Mercury, lord of the ninth. This happened at twenty-five days over twenty-nine years of age, much about the time of his entrance into his ministry. And, though we cannot say it purchased him that honour, yet we can safely say that it prompted his human mind to comply with his divine commission, and facilitated

his reception, wherever he came, with a kind of luck whereby this direction served him; for God Almighty makes use of natural instruments to serve divine ends. About this time also came the ninth house to the mercurial star called Castor's Head; and the Moon encountered the She-Goat, a star of Mercury and Mars, at thirty-one years and two hundred and forty days. These are stars furthering ingenuity, though not without troubles, and such our Saviour wanted not for all the time of his ministration, until finally his ascendant came to the opposition of the Moon, first without latitude, at the end of thirty-one years and two hundred and twenty-two days, about the beginning of August; at which time his neighbours of Capernaum began to deride his ministry, and the pharisees, complying with the Herodians, made him fly the country; and, lastly, the ascendant to the opposition of the Moon, with latitude, the ascendant being in this figure Hyleg, and the Moon, which is Anareta, being on the eighth house, deprived him of life, as God had appointed it from the beginning.

Thus we find the time proposed most fitly agreeing with all passages of his life, as well as with his death. But yet, to make sure work, we used to compare the situation of a scheme also with the complexion and qualities of the native, before we determine that the time is right. And now to do as much by this; First, it is apparent, by the known rules of art, that Jesus was born, as it were purposely, and that so as may be discerned by the scheme of his nativity, to die a violent death. For here we have the Moon, the common significatrix of life, sitting upon the very brink of death, upon the cusp of the eighth house: then we find her in conjunction with the very worst of malignant stars, Algol's Head. The Dragon's Tail also is in the eighth, in less than ten degrees of her: but as bad or worse than all this is Mars in opposition unto Jupiter in the ascendant, and in quartile with Mercury, and the Sun in the fourth. It is true indeed, that, as he came into the world without sin, so was he above the power of any influence of heaven to be able to hurt him: and, had he not voluntarily submitted unto the infirmities of nature, they had never in the least reached him. And, though the significator of his enemies was stronger and better armed than such stars were which stood for his own person, yet was his armour of innocence easily able to have overturned all, would he have used his mighty power to that purpose: but such was his love, that he was willing to lay down his life; and therefore he put himself under the power of nature, in order to lose his life. And hence, by means of this submission, Mars, in the house of enmity, and lord thereof, being stronger than Venus, lady of the house of life, or Jupiter, her associate, placed in
that

that house, rendered his enemies too strong for him, and backed them with bitter choler, spite, and malice, against him. The Sun being in quartile to Jupiter and the ascendant inclined the magistrates averie both to his person and doctrine. Mercury also in the same quartile inclined the churchmen with the same averfeness to oppose him. Mars in opposition exasperated the men of war. And, lastly, the Moon stirred up the vulgar people to cry him down. And all this might have been as aptly foreseen by his nativity when he entered the world, as it is now known by his life past it.

But, to pursue the residue of his person, as well as his condition, we find, that Libra, a cardinal sign, of temper sanguine, hot, and moist, ascends; and Jupiter is in the ascendant, near the point of rising, at birth, in a sign of his own nature; and Venus, lady of the ascendant, in Aquaries, a sanguine sign too, do all bespeak him to have been a person of a very level temper, and of a sanguine complexion. Venus, in trine to the ascendant in the house of Saturn, endued him with a sober chearfulness in his conversation: and Saturn, being in a sanguine sign too, in trine of Jupiter in the ascendant, from the ninth, or house of ingenuity and religion, and in dignities of Mercury, with a reception from him in the highest degree by house, infuses melancholy into his temper, to mingle with his mirth, and feeds him with a mighty strength of judgment and deep policy: also he distils gravity and seriousness into all his actions: and thus Jupiter, Venus, and Saturn, are most excellently united in him with the best of aspects. To these we may add the Moon, with almost a moiety of her orbs in her exaltation, and there in trine of the Sun and Mercury. The Moon is the great mistress of life and nature, and the trines to the Moon do gratify the native, even as strongly as if they fell into the ascendant. Hence therefore is he armed from the Sun with a majestic and a royal presence, and princely prudence, and from Mercury with as great a stock of ready wit and ingenuity; and the rather, for that he is in Cazimi with the Sun, and in so strong reception with Saturn. Together with all these we find Spica Virginis, a star of the sweetest influence of all the fixed stars in heaven, sitting near upon the cusp ascending, and there admirably qualifying for oratory, and that especially in divinity. Arcturus is there too, a princely star, that administers courage and a noble resolution. Lastly, the sign of justice ascends; and Jupiter, the planet of religion, joins with it, to increase devotion; and Saturn and Venus are both in signs humane and temperate. And, although our Saviour was not as common people are, yet had nature wonderfully set him out.

But

But yet there are exceptions. For the Moon is ill placed on the eighth, in an unlucky house, and joined with a peevish and crabbed star, which must needs infect her to be so too. Mars is also set as if he stood on purpose to destroy a nativity, so opposite to Jupiter and the ascendant ; and, being strong withal, he seems to threaten all good qualities with an overturn, infusing nothing but choler, fury, and malice, into the native's head ; and, disposing of the Moon, he makes her so too. The Sun also looks upon the cusp ascending with an evil quadrature, and such as usually renders a native much more proud and ambitious than either wise or good-natured ; and Mercury, complying with the Sun in the same aspect, endeavours to incline this sacred person unto theft and lies. But what now ? Was Jesus thus ? or rather does not Astrology belie him ? No, neither. For, had these evil aspects courted an ordinary nature unto evil manners naturally, yet would they not have forced him, but he might have overcome all by gracious habits. But much more than this must we note in our ever blessed Lord Jesus Christ. For, he being born without sin in his nature, the heavens wrought upon him in a different manner of influence from what they do by us. For, seeing that the divine nature withheld so as no sin could enter him, the worst of aspects (for matter of qualification) became the best unto him. For, by how much an opposition or a quartile is a stronger aspect than a sextile or a trine, may they be withheld from doing harm, they must needs aspect with the greatest force of their virtues. And thus the opposition of Mars, falling into his head, instead of fury and choler, administered the greater courage in him ; and the quartile of the Sun, instead of pride and ambition, gave him the greater majesty and wisdom ; and the quartile of Mercury, instead of lies, gave him the more prodigious wit ; and the Moon with Algol's Head, instead of peevish, made him the more soberly wise. But we must remember, that, though Christ could not sin, yet die he could. And thus therefore oppositions and trines, and evil stars, were as evil to him, in as high a degree, as unto the meanest of us ; for in all things, saving sin, was he as we are.

Next proceed we to his body, only so as to compare that too with our scheme. For, though we have no proof either of his stature or his colour, yet may we be bold to say (by rules of art) that, Libra ascending, he was somewhat inclined to be tall and fair : but this was the less, few degrees of that sign ascending, and they in terms of Saturn : else is there nothing to except, unless the Moon, with Algol's Head, may be thought somewhat to abate from both. Jupiter in the ascendant gives an handsome brown feature, hinders not tallness, but bespeaks some-

somewhat of corpulency; save that the trine of Venus from Aquaries, and of Saturn out of Gemini, forbid it. Jupiter gives a grey eye, and so says Venus; and none can hinder. Venus would gladly beautify the face, by virtue of her interest in Libra, and something she does to render it rather fair than brown. And Saturn from Gemini can hinder but very little: he would pacify, but Jupiter and Venus are resolved to keep up the complexion. Jupiter administers brown hair, and Venus renders flaxen: but Saturn would have it black; whence, between both, Jupiter carries it. Venus gives a pleasant smiling look, and Jupiter denies it: not only Saturn attempts it, but prevails no farther than to render it soberly serious withal. The Sun and Mercury, with their trines so near the cusp, would fain deform; but Mercury in the Sun has not power to darken. The Sun would only cast swarth; but Jupiter in the ascendant on one side, and the Virgin's Spike upon it on the other side, utterly defeat him. Mars in opposition would fain scarify, but Jupiter so near defies him also. Lastly, the Moon between Aries and Taurus contraries but little from the rest; especially for that she has so few rays falling into her bosom. The most she does in opposition is only, by means of her place in the eighth, and being with Algol's Head so near, to wrinkle the brows, and furrow or dent the cheeks, but she wants strength. Jupiter would have a full face, and Venus a round; and so it is concluded between them, saving that Saturn and the Moon together prevail so far as to render it oval.

Lastly, as for his other fortunes. First, we find his ascendant and sixth well fitted with a very strong constitution for health. The opposition of Mars and a quartile of the Sun and Mercury prevail to harm more by unlucky outward accidents than by inward distempers. His house of wealth is directly opposed by the Moon, lady of the mid-heaven, and is not defended with any good aspect. His mid-heaven is also very low, the lady of it is sufficiently afflicted; and, being incumbered with a croud of evil aspects, had no help of either of the fortunes. No, the Sun in the very bottom of heaven bespeaks that this native's kingdom is not of this world. Only the Moon upon the house of death, after void of course, is in trine of the Sun, which shews to promise his kingdom by death, or after it. His ninth house has the help of both the fortunes. But Saturn bodily dwells there, and hatcheth a world of crosses, both in his functions and long journeys. His house of enmity is very strong, with the lord thereof therein, and at home in his own house, and threatens malice enough. The eighth house is even malignant too; and so is the lord of the twelfth, saving his trine to the Moon. But this lord is under the Sun, weakens his force,

and discovers all his private spleen. His fifth house, or house of children, has a rich jewel in it; and the lord thereof looks pleasingly upon the ascendant, which argues he had a body sufficiently fruitful for issue. The lady of the ascendant also in the house of children, in trine to the lord of that house, and both in good aspect unto the house of marriage and the lord thereof, do all agree, that it was no hindrance in nature which rendered our Saviour wifeless or childless. No, it was his great gravity, or rather his infinite piety, which, for the Kingdom of Heaven's sake, led him to despise nature's treasures. And hence came it to pass, that the church was his only spouse; and by her hath he a numberless offspring of holy saints unto his children. The lord of the sixth is in the ascendant, and the great fortune; whence were his servants true and faithful: only one Judas (when that sixth house came by direction to the quartile of Mercury, in the entrance of the house of enmity) fatally betrayed him; and the rest, more out of fear than for falsehood, forsook him and fled. The lord of the ninth is very low, and in quartile of Jupiter and Mars, and in conjunction of the twelfth lord; which rendered his friends men of low condition, and befriending him more by night than by day; as being terrified by mighty enemies, and not encouraged by any outward promises from himself. The lord of the third is in the house of enmity, and thence rendered most of his neighbours bitter and envious, especially during the times of ill directions operating. Only Jupiter, having dignities in that house, made other of his neighbours and kindred as much his friends. Lastly, the Sun upon the cusp of the fourth seems fitly to comply with that sovereignty which attended upon his death, and appeared by his resurrection and ascension into heaven. When Adam entered, the Sun was just upon setting. When Jesus Christ was incarnated, he was just upon rising. But at his birth he was at lowest. For it was not the Sun of the Firmament, but the Sun of Righteousness, who arose with healing in his wings.

Such was the fortune of our Saviour, during his progress through this earthly world; and such were the qualities of his humane mind, even as the stars describe them; and such were the complexion of his humane body, just as the heavens do bespeak. And, though we never saw his person, or any true portraiture of the same, yet know we, by the scheme of his nativity, that he was a man somewhat tall of stature, of an oval face, of a ruddy complexion, between fair and brown, of a grey eye, yet sharp and piercing, of a bright brown hair, of an high forehead, of much beard, of a pleasant look, smiling, yet soberly serious, and of a body well composed, and indifferently set, between
slender

slender and corpulent. And all this know we by the canons of Astrology. And that those canons are true, it is no small evidence, in that all the known passages of his life so punctually comply with them. And, be these canons true, (as we know by multitude of experience that they are certainly so,) then it appears by these canons, that at midnight of December the twenty-fifth day, was 1668* years compleat, since his birth. And every birth-day of this our ever blessed Lord and Saviour Jesus Christ falls on the twenty-fifth day of December. His life points out the very moment of time whereon he came into the light. And the scheme of the heavens to that moment is a true picture of his life; and such as no moment can shew again, in any hundred years time, before or after.

To these may be added, the frame of the heavens at his death, so fitly suiting with the time of the great business in hand, and describing what was done. And first we note, that on the over-night of the passover feast, at what time our Saviour was apprehended, the sign of the fourth house in the nativity (which always carries with it the character of death, or the end of every matter) was then ascending; and the Sun, which was therein at birth, was then in the bloody seat of Mars in the radix, which was at that point of time the fourth house, or the bottom of heaven, shewing all the glory of his present life to be lying in the dust, and his end of days hastening apace to overtake him. The malignant Saturn was upon the house of pleasure, enviously eclipsing all his mirth: Jupiter, who was radically a great assistant in the ascendant, was the lord of the ascendant, and significator of life at this time, but was locally in the house of service and slavery, in conjunction of Mars, lord of enmity in the nativity, and now lord of his end, who was greatly afflicting him in the radical place of Saturn. The significator of Judas in this scene was Mercury in his detriment and fall in Pisces, who, as he stands in the third, with the lady of the mid-heaven in conjunction, and disposes of his master in the sixth, afflicts him with a malignant quartile; and lastly, the Moon, which was radically in the eighth, or house of death, was now lady of death, and, being advanced unto the top of heaven, seemeth to stand there trampling on the head of the Sun in the fourth, as it were in his grave, with her worst of rays, and they too not a little poisoned with the nearness of the Dragon's Tail. Such was the state of heaven at his apprehension by Judas and his company at twelve o'clock at night, on the evening preceding Friday the third of April.

* The year in which this author wrote, and calculated our Saviour's nativity. Let it be remembered, that the alteration of the stile has nothing to do with this calculation.

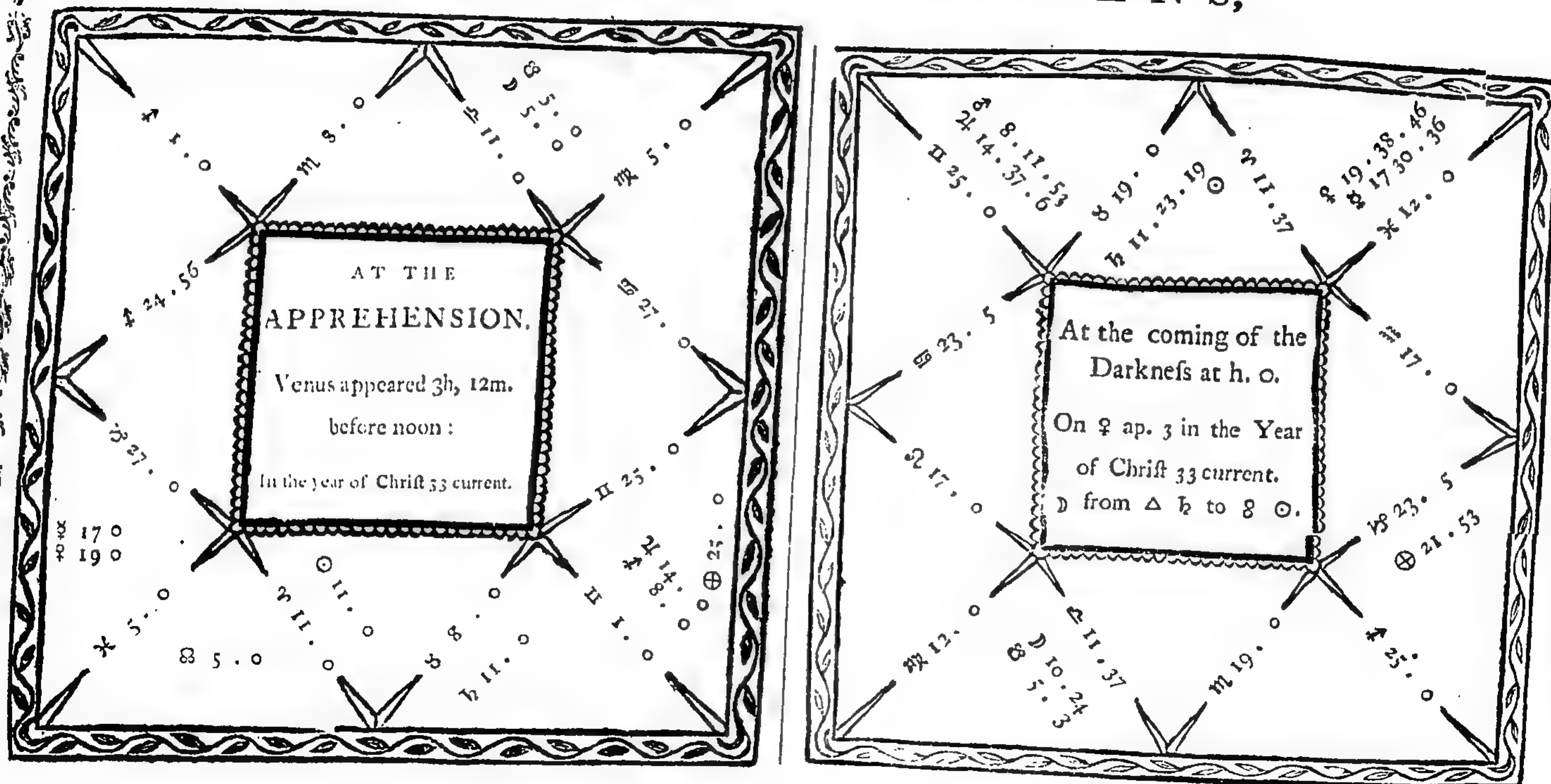
As the Sun approached the ascendant, Jesus was led before Pontius Pilate, the Moon in the seventh maliciously opposing; for so the judges at his first apprehension became now his accusers, and, possessing the natural sign of Christ himself, which ascended at birth, and which was the sign of justice, as the *labourers in the vineyard*, under pretence of religion, cast they him out of his own: and Mercury and Venus, one signifying the traitor, and the other the magistrate into whose hands he was betrayed, were then in the twelfth, acting the part of private enemies. But, as the Sun drew into the eleventh, or house of hopes and friends, and there infected by the envious place of Mars in the radix, Pilate also, his some-while friend, yielding at last to the opposition of the Moon, or the rabble, and turning enemy, condemned him to be crucified.

And, by that time the Sun in the radical chair of Mars came into the house of honour, the Sun of righteousness was lifted up upon the cross, as if he was hastening towards heaven, and that in order to draw all men after him. And here the Moon, signifying the rabble, opposes him with bitter railings. Saturn upon the eleventh, and lord of enmity, complies with them to destroy his hopes; and Jupiter, lord of the ninth, signifying the priests, and Mars the soldiers, being both in the twelfth, are private enemies. But finally, as they continue railing and reviling, lo! at the very point of high noon, an universal darkness overwhelmed all, and the Sun himself blushed to behold what cursed things were acting. The Sun was now where Mars was at birth, as it were disposed of by his mortal enemies. Jupiter, which ascended at birth, was in the hands of Saturn, in his very seat of the radix, as it were in the dungeon of bitter restraint, and Mars, the natural enemy, was afflicting him there. The Moon, which was radically lady of the mid-heaven, and placed upon the house of death, was now at length settled and seated together with the Dragon's Tail upon the ascendant, or the seat of life, as who would say, the utmost period thereof is now expiring, and, even as the darkness fell, the Moon upon this place of life was just underground with it.

Lastly, at three in the afternoon, the darkness vanished, and the light returned; and then was the Sun falling into the house of death, still being in opposition of the Moon. Saturn was in the ninth, enjoying the ecclesiastical, and Mars in the tenth, usurping the civil, authority. But, as Christ died, all his misery died with him: and that death brought light into the world, and ushered our ever blessed Saviour in that glorious light into his eternal glory. And finally, the Moon arose at sun-setting; but it was eclipsed, signifying the fall of all such as thought to rise upon their sovereign's ruins. And the frame of all these things ye may behold as follows, in the annexed schemes:

But

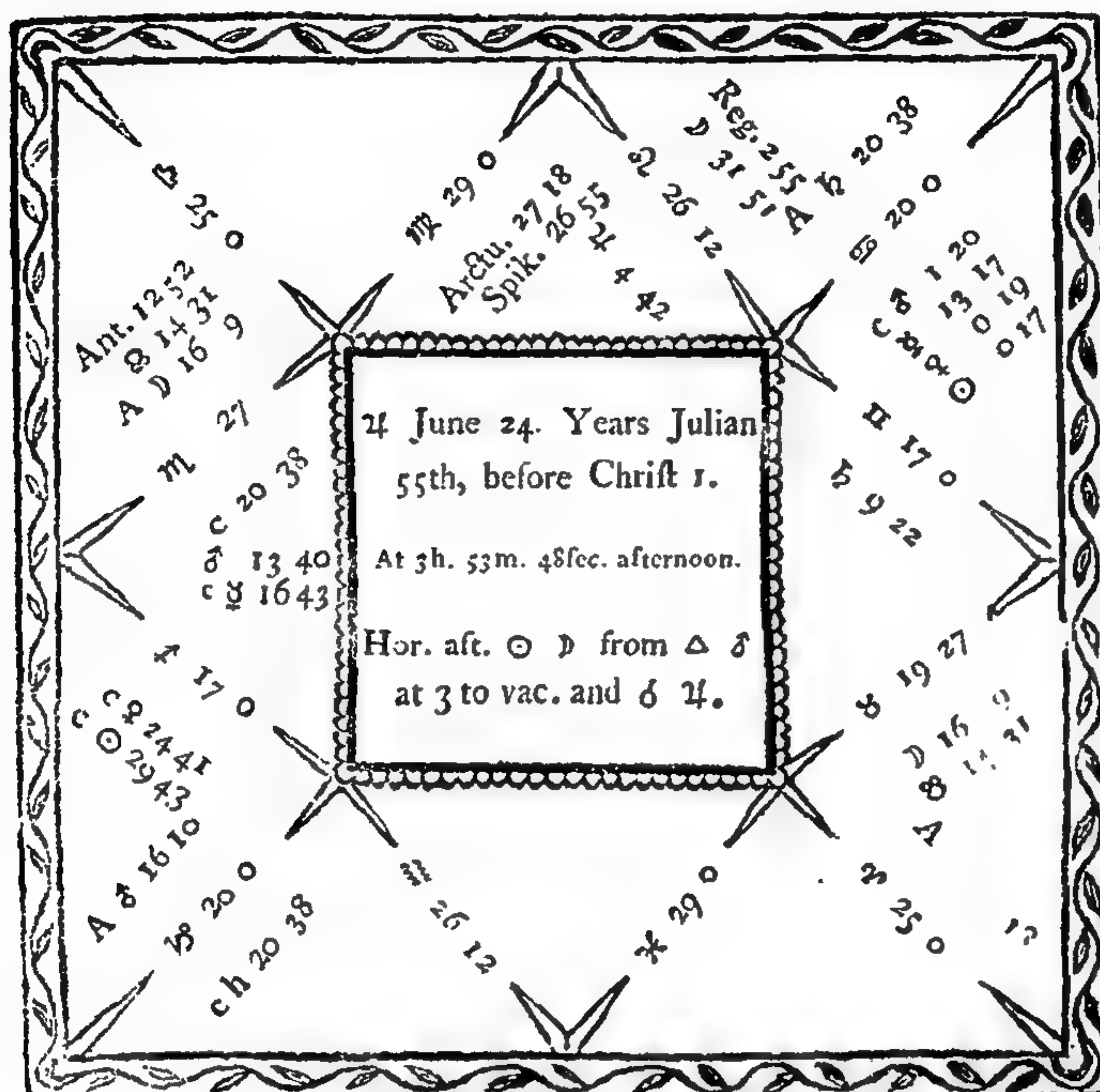
S C H E M E of the H E A V E N S,



At the APPREHENSION and CRUCIFIXION of CHRIST.

But, because the life and death of St. John the Baptist was so nearly related to the life and death of our ever blessed Saviour, and the day of his nativity appears also with much shew of certainty, I have therefore taken the pains to calculate a scheme of his nativity also, as follows:

NATIVITY of ST. JOHN the BAPTIST.



♄	South Latitude	5	2
♅	South Latitude	0	50
♆	North Latitude	1	15
♇	South Latitude	3	45
♈	North Latitude	1	6
♉	South Latitude	1	13

Here the Dragon's Head and Antares, with latitude upon the ascendant, give a very bold man; the Moon, with Regulus in trine of Mars, confirms the same.

The sign Scorpio, with the contra-antiscion of Saturn in the ascendant, give one of a furly and austere disposition; Saturn in opposition of Mars confirms the same.

No. 47.

10 R

The

The antiscion of Saturn on the ninth, with the Moon upon the ascendant, with the Dragon's Head, as also the Sun, Venus, and Mercury, in sextile of Jupiter, inclines unto honesty, gravity, and good manners.

Mercury in reception with Jupiter, and in trine to the ascendant ; also the Moon in trine of Mars, and in reception with the Sun, and the Sun in the sextile of Jupiter, give a sufficient wit, and a sound judgment.

Nothing promises worldly wealth ; but, contrarily, Jupiter in the mid-heaven, in sextile of the Sun and Venus, promiseth honour enough.

But Antares, a violent fixed star, upon the ascendant, with latitude, and that within a degree, bespeaks a violent death. And Saturn in opposition of Mars, from angles, (the one being lord of the ascendant, and the other of the fourth,) peremptorily threatens it. And it came to pass, is it seems to be ushered in by these directions, as follows.

First, he entered into his ministry at the age of twenty-nine years, and some little odds ; and was immediately buoyed up with wonderful applause. At this time were operating, the ascendant in trine of the Moon with latitude first, and then without. The mid-heaven to the Virgin's Spike, with latitude first, and then without. Also the mid-heaven to Arcturus, without latitude. Also the Moon to the sextile of Mercury, and the Sun to Regulus. But the ascendant came to the conjunction of Mars, without latitude, at the same time.

Secondly, at thirty years of age and upwards, he was imprisoned. At which time were operating, the Moon to the quartile of Mars, and the Sun to Hydra's Head. The ascendant to the conjunction of Mars, with latitude, and the mid-heaven to the quartile of the Sun, were coming up. But

Thirdly, he was beheaded : at which time came the ascendant to a conjunction with Mars, with latitude, at about thirty-one years of age, and two hundred and sixty days, or thereabouts ; and the mid-heaven to the quartile of the Sun was near in action about the very same time.

Lastly, we find how this death was brought about by a the private enemy ; and such a one we find Venus, lady of the twelfth, with the Sun, lord of the mid-heaven, in the eighth,

O n E L E C T I O N S.

What is meant by Elections, is nothing more than projecting a scheme of the heavens, to find the several positions and configurations of the planets on any given day whereon we propose to begin any business of importance, to take a long or interesting journey, to make overtures of marriage, or to pursue any object of our happiness or advantage; for the purpose of chusing what is vulgarly called a lucky time to begin, that is, when the influx of the principal significators is such, as shall correspond with the desires of our mind, and with the business, whatever it may be, we wish to take in hand.

I purposely declined taking notice of this speculation in the First Part, that I might not be laughed at; which I must own the absurdity and folly of those, who on every ludicrous and trivial occasion have resorted with religious solemnity to this custom, have given but too much occasion to inspire; yet I will now take leave to hope, that enough has been said to shew, that in our more important concerns, and in the real and heart-felt perturbations of our minds, upon the commencement of any arduous and extensive undertaking, it may be as well to choose those seasons when the best and most favourable influences of the heavens concur, as when they put forth the most noxious and discordant irradiations. To a thinking mind, there cannot be a moment's hesitation, since no man in his senses would prefer a stormy tempestuous day to ride out for pleasure, to those distinguished by calmness and serenity; nor would he choose an intense frosty morning for the pleasures of a cold bath, which is luxuriant only in a milder season; and yet all these differences in the weather are produced by the varied positions and changes of the planets, by an influx and effect upon the ambient matter, which we can no more see, than we can the influx produced by the same bodies upon the bent of our minds, or which determines this certain order of times, so fitly appropriated to all human concerns, that the scriptures piously recommend a due observation of them, and which, the psalmist declares, *are beautiful in their seasons*!

Those, therefore, who wish to consult the heavens, previous to any important undertaking, should project the horoscope for that precise time when they feel their inclinations most completely bent upon engaging in the business. This will shew them the particular influence of every significator then operating; and, being compared with the genethliacal figure of birth, and with those directions in the nativity, which are to operate both for our good and evil, will, upon a fair and true

comparison, quickly inform us whether the business in contemplation will generally or eventually turn out to our advantage, or not. But, for the more particular discovery of what relates to the good or ill success of the business itself, with all its consequences and collateral incidents, a figure must be projected of the exact time when that business is begun, and the face of the heavens then operating, most particularly and minutely considered. The signs, the significators, the angles of the figure, and the good and evil places of the horoscope, are to be allowed their natural and accustomed implication, exactly the same as in all the rules heretofore laid down; and, if the two figures thus projected form an harmony and concurrence with the figure of birth, and fall in with the good directions and revolutions thereof, the undertaking will undoubtedly be prosperous, and the business successful. But, if these figures are discordant in themselves, and oppose the benevolent significators in the geniture, it will, if pursued, prove dangerous or destructive to the native, and will forward the evil events prenoted by the directions of the geniture.

A mediocrity in the positions and influences of the significators, and of the angular houses of the electional figures compared with the geniture, will, as in all other cases, produce a medium between the two extremes, and shew that the event of the matter in hand shall neither greatly serve, nor materially injure, the party then about to engage in it.

E N D of the S E C O N D P A R T.

AN
ILLUSTRATION
OF THE
CELESTIAL SCIENCE
OF
ASTROLOGY.
PART the THIRD.

CONTAINING THE
METEOROLOGICAL PART of URANOLOGY;
WITH CERTAIN
RULES for prejudging the Revolutions of every Part of the habitable WORLD.
GENERAL EFFECTS OF
Great Conjunctions, Eclipses, Comets, Blazing Stars,
And other EXTRAORDINARY PHENOMENA:
WITH THE
ART of CALCULATING ECLIPSES, TIDES, and WEATHER,
For any Number of Years to come.

THE WHOLE
Illustrated by a FIGURE of the SUN's Ingress into the Sign ARIES;
AND BY A
Revolutional FIGURE of the Commencement of the AMERICAN EMPIRE.

By EBENEZER SIBLY, ASTRO. PHILO.

PRINTED IN THE YEAR MDCCXCII.

A N
I L L U S T R A T I O N
Of the C E L E S T I A L S C I E N C E of
A S T R O L O G Y.
P A R T the T H I R D.

THE meteorological part of Astrology is that which enables us, by a certain well-known influence of the planets, seconded by observation and experience, to ascertain the causes of the different qualities of the air, the generation of meteors, thunder, lightning, and all the various phenomena of the heavens; whence the predictions of the weather, of the temperature and quality of the four seasons of the year, and of the prospect of a healthy and plentiful time, or of plague, pestilence, and famine, are necessarily deduced.

This part of the science likewise comprehends the doctrine of eclipses, comets, blazing stars, and the great conjunctions of the superior bodies; whence the revolution of empires, the fate of kingdoms, the renovation of customs, and the civil and political fluctuation of all the provinces, states, principalities, and commonwealths, upon the surface of the globe, are sought out and predicted. We shall therefore arrange these speculations under their respective heads, and consider them distinctly in the order they stand.

O F M E T E O R S in G E N E R A L.

Meteors are divided into two sorts or classes: the one rising from vapours and exhalations, called imperfectly-mixed bodies, because they are easily reduced into their first nature, or proper element, as into hail, snow, or water; and the others are termed perfectly-mixed, as thunderbolts, and such-like petrified substances, because they cannot so soon be converted into the first element from whence they were derived. The material

material causes of all meteors are hot and moist vapours, or hot and dry exhalations from water and earth; the efficient cause is from the fixed and wandering stars, by virtue of whose beams a light rarefied substance is extracted from gross and heavy bodies, as vapours from water, and exhalations from earth. Their qualities are heat and moisture, which produce diversities of effects, especially in those which are less perfectly mixed, and of a light and convertible nature.

Vapours consist of the four elements; but the substance is water; as the steam of a boiling pot, which hangs like dew upon the lid or cover. Exhalations are commonly like smoke, of a hot and dry quality, as is perceived in a summer's day to offusate the air, or make it seem dusky with the ascending of thin fumes; and after this usually comes thunder, which shews from whence these exhalations were extracted; for out of fire and air only no meteor can generate, as wanting matter; the fire of itself being an element so subtile that it cannot be purified; whereas all exhalations and vapours must be refined, and consequently extracted from some grosser body. For the air, if much rarefied, will turn to fire, as is seen in the violent motion of wheels, and in such things as are set on fire by rarefaction, where the matter is dry and combustible. When the air becomes gross, it turns to water; as appears from our breath in the winter season, or from the inclosed air in vaults, or other hollow places, which will quickly be condensed by opposition of the outward air, or coldness of the place, especially against rainy weather.

But the element of air is divided into three several regions, or parts, variously qualified, in which are generated many imperfect and mixed bodies; and these divisions are nominated the upper, middle, and lower, regions of the air. The first and uppermost is close adjoining to the element of fire, and hath a circular motion from east to west, carried about by the *primum mobile*. This region of air is perpetually hot and dry, and, by reason of its violent motion and proximity to the fire, will not admit the generation of clouds, because of the heat, and remoteness of the earth from whence they are extracted. To this place are lifted up exhalations, by nature hot and dry, which easily ascend to that height, by reason of their heat and levity. These imperfect bodies, by the heat of the Sun, and influence of the stars, are conceived to be exhaled from the earth, or out of lakes, rivers, seas, and other watery places; and this meteor, as it ascends, leaves the grosser parts in the lowest and middle regions; and, as it rarefies, it elevates itself unto the upper region, like a subtile and thin fume.

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These exhalations, having penetrated the middle region, and attained unto the height of the elements, are circumvolved with a slimy matter, oily, and apt to be inflamed. Thus having assumed a body, it is violently carried about with the air, until with the motion and vicinity of the fire it is inflamed; and then, nourished with more exhalations continually drawn unto it, it burns and converts itself into divers forms, according to the disposition of the matter then generated.

But others appear to fall, and slide through the air; the lightest part being consumed, or drawn away by some other means, or the levity of it being unable to support the grosser part, lets it descend obliquely through the air; and, thus enlightened, is termed a falling star. Some conceive that this meteor ascends not so high, being of a gross body, (yet hot and striving to ascend,) but is repulsed by the coldness of the middle region, or the moistness of the clouds; and so, by reason of its own weight, and by the opposition of the element, it is thrown down again. The substance of it is like a jelly, transparent, lucid, and apt to be illuminated.

Fiery meteors are usually moved, by the region they are in, from east to west, according to the raptile motion of the spheres; though Seneca affirms that he perceived one which moved parallel to the horizon, from the north by the west into the south, and so by the east into the north again. This is by no means improbable, since many lucid meteors move with the air, and are impelled by the matter which nourishes them; as may be seen by fire in stubble. Another kind of meteors are seen to remove suddenly from one place to another, casting forth sparks like fire, and are by some termed goats; whilst others again appear fixed and immovable, both in respect to latitude and longitude. These are generated in any part of the heavens, and at all times of the year; but rarely, in cold countries, at any other time than autumn; for then the heat is sufficient to raise up the matter, and the temperature of the air is apt to suffer the exhalations to draw to it a slimy matter, which cannot exist in the spring time, the heat not being then sufficient to elevate them. And in summer, the exhalations are not so gross, because the Sun's heat dissipates those vapours, and rarefies the air; and, if it could be drawn together, the middle region is so cold, that it cannot ascend to the upper; and the winter quarter is so cold and moist, and oppugnant to such exhalations, that it is quite unapt for the generation of meteors of this kind.

The middle part or region of the air is generally conceived to be vehemently cold and moist, by antiperistasis: and its effect also proves
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the same. And this we see in all things that are oppugnant, inclosed, and comprehended by their contraries; for being of greater force doth cause the contrary, which is inclosed, and not being able to break forth, and at the same time repulsed by its opposite quality, contracts, and, as it were, fortifies itself. This is seen by experience in all living and sensitive creatures; their inward parts being much hotter in winter than in summer: and their stomachs apter and more able to digest their food. The cause is, that the heat is then repulsive to the inward parts, by the opposition and coldness of the outward air. Besides, the fire, and all combustible things, will burn more violently in winter than in summer; and, the colder the weather is, the more it will scorch. The reason in all these is the same; since the fire is found to grow more violent, by how much the more it is opposed by the contrary quality of the subdued cold. The case is the same in the middle region of the air; for the upper part is made hot by the violent motion of it, and by its proximity to the element of fire; and the lower region is made hot by reflection of the Sun-beams; whence the cold included between them becomes the more violent in proportion as the lower region is inflamed by the Sun's reflection, and by that means is colder in the heat of summer than in winter.

These divisions or portions of the air have no determined space; nor hath the water in respect of quality; for, by the motion of the celestial bodies, both cold and moisture being drawn together, the element of water will increase, by which the air must of necessity diminish. So, by the conjunction of heat and moisture, the sphere of water will be diminished, and the air as much increased. By this means the air more abounds in summer than in winter, and the water more in winter than in summer; and thus the middle region of the air is occasionally contracted and dilated, and is consequently greater at one time than another.

By the heat of the Sun-beams, and influence of the stars, meteors are elevated to the middle region of the air. Those which by nature are temperately hot and moist are extracted from wet and waterish places; yet they retain as much heat as is sufficient to elevate them unto the height of the middle region, where, by reason of the coldness of that place, they are condensed, and there generate several kinds of imperfectly-mixed bodies. The clouds, thus incorporated, are with the cold turned into snow; and congealed many times before it engenders water. To prove this assertion, we may observe that snow, if compacted or beaten together, is not so soon dissolved into water, as ice will be, by the Sun, or any other means; which argues, that, had this substance

been water first, it would have been sooner reduced. These vapours, or thick exhalations, drawn up into the middle region of the air, are often digested and turned into water, and from thence distilled down like mists, or in very small drops; for the greatest rain is supposed not to fall far through the air, but out of the inferior part of the lower region.

It is generally conceived, that the rain which falls from the middle region descends in little orbs, whereby to preserve itself, and to resist the violence of the air through which it passes; and it becomes small, by reason of the distance and time it occupies in falling. For hail demonstrates both the bigness and rotundity of the drops, which from humid exhalations, drawn up into the middle region, are there converted into water; and, immediately as the drops distil down, they are contracted into ice by the coldness of the air, in that part which is called hail, derived from the High Dutch *Hagell*, or from the Hebrew *Egell*, which signifies congealed drops.

In the winter season it is seldom observed to hail, because the cold in the middle region is more remiss than in warm weather; and in summertime it is seldom observed in any very hot day, because the heat of the lower region will not permit it to pass, without dissolving it before it reaches the earth. But in the spring, and in autumn, we frequently see, and are subject to, hail-storms; the heat being then sufficient to elevate the matter, and yet not so violent as to dissolve it in its fall. Sometimes, however, it happens that very large hail-stones are precipitated at Midsummer, or in the very hottest seasons; and these hail-stones are then the greater, if the elevated matter be sufficient, by how much the more its nature is opposed by the lower region, made hot by the reflection of the Sun; for in all times of the year, and in all countries, there are more and greater storms of hail observed to fall in the day than in the night.

There is unquestionably a fiery nature included in hail-stones, very different from the heat of that subtile vapour which occasions it to ascend the middle region; for by the force of contraries it is evidently congealed, as may be illustrated by the simple quality of salt, which, being hot and dry, is made of water whose natural temperatures are directly opposite; being cold and moist in open weather, or by the fire-side, or in the summer season. Take a handful of salt and mix some snow with it; stir them together till they incorporate; and they will immediately contract themselves into ice; which is done by antiperistasis, or repulsion on every part; so, the middle region of the air being cold, these frigid meteors are thereby generated.

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The lower region of the air receives all the former qualities by necessity, according to the several seasons of the year; and, by the means already mentioned, there are exhaled from the earth moist and crude vapours; the grosser parts being earthy, and containing but little heat, they are unable to ascend to the middle region; yet by the help of that heat, and the attractive virtue of the celestial orbs, they are raised above the earth, and there oftentimes congeal before they can be dissolved into water. These are called frosts, whereof there be many kinds, according to the matter exhaled, and the temperature of the season. At some times of the year, the ground in the mornings will be hoary, like the head of thyme, and the grass crisped with the frost; at other times rime-frosts, or congealed mists, hang pendant on the branches of trees; or else black or wind frosts, which are not so wholesome; for they consist of gross and earthy vapours, exhaled out of more undigested humours, and are not so easily discovered by the sight as by the sense of feeling.

There are other vapours exhaled, which are called mists, derived from the mixture of air and water. Of these there are several sorts; some are thin and sterile, and have not moisture sufficient to beget water, nor is the heat in them sufficiently prevalent to elevate the gross humours, and cause them to ascend; but they hang upon the earth until the Sun rises; then he usually chases them away, and, being dissipated, it becomes a fine day.

Besides the above, there are gross mists or fogs, which are more earthy than the former, composed of crude and undigested vapours, drawn from corrupted places, out of fens and wet marshy grounds. These are very unwholesome, and unpleasant to the smell, in proportion either to the noxious stagnate waters from whence they were extracted, or to the putridity of the air, occasioned by a long continuance of calm moist weather.

There is another exhalation called dew, which is a liquid vapour, extracted from water or earth. This hath an affinity to frost, as rain hath to snow; and are alike in the material cause; the efficient cause being attributed to the stars, and to the coldness of the air. The dews are conceived to be very earthy and ponderous; for they do not ascend high, but are converted into a watery substance, almost as soon as extracted, being observed much more upon low and wet grounds, than upon high and dry hills; and thicker upon the humble shrub, than upon trees of an high and exalted nature, like the lofty cedar.

The usual time of these dews is in the evening; the heat of the Sun, declining, being then unable to support the meteors which he raised in the day; and, on his deserting the hemisphere, those that were more elevated must likewise fall. The hotter the day, the greater are the exhalations; and the nights are then usually colder, to convert them into water. All dews are observed to be greater at the Moon's increasing; but greatest of all at the fall. The season of the year is to be considered, and the weather; for, the hotter the day is, the colder will be the night, by reason of the shadow which the terrestrial globe then makes; as is exemplified by the shades of trees, or of any other interposed body, which are colder in summer-time than in winter, in respect of the air in general. For in shadowed places, in the heat of summer, the air, as in opposition to the heat, is found to contract itself into a grosser body; from whence it appears that the whole element of air is by nature cold.

There is a dew that flies in the air like small untwisted silk; which, falling upon the ground, or on plants, converts itself into a form like spiders' webs. The matter they consist of is an earthy and slimy vapour or exhalation, something dry; and they are found equally in spring, summer, and autumn; but in these northern countries they are most frequent when the Sun is near Libra, the days being then temperately warm, the earth not exceeding dry, nor yet overcharged with moisture.

There is also another sort of dew, called honey-dew, which consists of earthy exhalations mixed with waterish vapours; and many suppose them to be exhalations from plants and flowers; and this more evidently appears from sugar-canes, and divers kinds of Indian reeds, which have, in the morning, dews hanging upon them, in taste resembling honey; and argue, by their sweetness, that they are extracted from the plants. These honey-dews afford plenty to the stores of the industrious bee; nor have their purveyors much labour or trouble to procure their loading; but, though these honey dews are good for bees, they are destructive to many kinds of animals, as sheep, goats, deer, and the like; and are in general injurious to all fruits and blooming flowers; especially to hops, grapes, and corn; and often blast them in their prime. It was for the purpose of diverting these evil effects, that Numa, one of the Roman kings, superstitiously instituted the feasts called Rubigalia and Floralia, in the year from the building of Rome 516; which feasts were observed on the 28th of April to the 3d calend of May. This festival the Catholic Church hath since converted into Ascension Week, calling it Rogation, from the circumstance of imploring a blessing upon the fruits of the earth.

The next effect to be considered is rain. Rain-water is found much more insipid at one time than at another; and is very often impregnated with a brackish taste, yet comfortable to vegetation; and, by reason of the warmth, it nourishes more abundantly, and is more natural for that purpose, than spring-water, or what is drawn out of wells, which is cold, and too earthy; whereas the other participates of the air, which is hot and moist; but, by reason of this co-mixture of the elements, it is apt to form divers animalculæ, especially in calm times; which, like the air, wanting motion, may corrupt; and so, consequently, generates many things, according to the undigested matter exhaled from the earth.

The lowest meteor in the air somewhat resembles a burning candle; and is by some called *Ignis Fatuus*. This is a hot and moist vapour, which, striving to ascend, is repulsed by the cold, and, forced by antiperistasis, moves close to the earth, and is carried along by the vapours that feed it, always keeping in low moist places. The lucid rays are of an exceeding pale colour, and very unwholesome to meet with, by reason of the noxious vapours it attracts, which nourishes the palid flame. It is frequently seen to ascend with a very rapid motion; but it as suddenly falls, the moment it is repelled by the cold atmosphere; from whence its name is derived.

There are likewise vapours, hot and moist, co-mixed with exhalations that are hot and dry, involved thus within one another, and form what is termed electrical matter. They ascend, by virtue of their heat, into the middle region of the air, where the exhalations, by antiperistasis, grow inflamed, and strive to break forth from the cloud in which they are involved. The upper part of the cloud, where the heat would pass, by opposition grows more strong; and the exhalation, grown over hot by being thus constrained, breaks forth with violence from the weakest place, against the air that is in the lowest part; and, by reason of the cold above it, the heat and subtilness of the exhalation, with its own violence in breaking forth, glances down upon the earth, without doing any injury, if unresisted; as a consuming sword, without hurting the scabbard. This is the natural generation of thunder and lightning; which Dr. Franklin, Dr. Priestly, and other ingenious men, have largely treated of in their electrical disquisitions.

The clap of thunder is first, but the lightning soonest appears; because our sense of seeing is much quicker than that of hearing; as may be exemplified by a thousand common experiments; particularly by the discharge of a gun, or cannon, where we see the fire before we hear the

the report. With the conjunction of these compound vapours and exhalations, stones are generated in the air, as other minerals are in the earth, but more fiery by nature; and these are what are vulgarly called thunder-bolts; which, in their form, are perfect cones, like the flame of fire which generates the mout of the terrene exhalations; they pervade the earth in proportion to the projectile force of their velocity. The preservatives against thunder and lightning are many. All hard things will preserve what is soft and liquid; as iron laid upon vessels will keep the liquor from souring, by the former alleged reasons, besides this, it is naturally resisted by a cover made of seal's skin, which preserves any creature by which it is covered. The like doth the laurel-tree; for which reason many of the Roman Emperors, in times of thunder and lightning, were accustomed to wear a garment made of laurel-boughs. The pale lightning is most unwholesome; but the red aptest to burn; the best and most assured preservative against which is the protection of heaven.

But let it be noted, that there may be thunder without lightning, and lightning without thunder; for, when these hot and dry exhalations are inflamed, and the cloud weak in which they are involved, the incensed exhalation breaks forth without violence, not being restrained; and the coldness of the middle region strikes the flashes downward, but not always to the earth, though its glittering and reflecting upon the watery clouds makes it appear close by; the same as when the Sun beams, or any other sudden light, falling upon the water, will reverberate the lustre, and dazzle the eye; particularly if the water be moved with any wind. These coruscations are common in hot countries, and in the heat of summer.

Thunder without lightning also happens when the hot and dry exhalations break violently through the clouds in which they are circumvolved, but not inflamed; yet making a roaring noise in the burst of the cloud which restrained it. We also frequently see little bladders filled with wind give a crack or report at the sudden and violent breaking of them. Sometimes thunder happens, and yet no lightning will appear, by reciprocal winds; the clouds violently breaking themselves in meeting with one another; and this may often happen, by the insurrection of several mutinous exhalations disturbing the air with several commotions. These usually happen after much calm weather; and are very wholesome to purify and purge the air, lest with too much quietness it should corrupt.

Rain.

Rainbows are generated in waterish clouds, which are ready to be dissolved into rain. These are observed to be always directly opposite the Sun or Moon; as, if the Sun be in the south, the rainbow will be in the north; and, when the Sun is in the east, the rainbow will be in the west; and thus in every part of the globe. The lower or nearer the Sun is to the horizon, the larger will the rainbow appear; though it never can exceed a semicircle, and is the less in proportion to the light of the Sun above, in any sphere; which is the reason at noon-day we so seldom see any rainbow, particularly when the Sun is in the summer solstice, or near the tropic of Cancer; except in such places as are far northward, or towards the antarctic pole, where, for some weeks, there is continual day.

The Sun in winter, near Capricorn, may cause a rainbow at noon-day in our climate; for they are formed by the light rays of the Sun falling upon vapours and waterish exhalations opposite to him, and but little elevated above the earth; and, by reason of the great distance or remoteness of the Sun, the illuminated beams describe his form after an obscure and imperfect manner, portraying on an arch of a circle, adorned usually with the colours red, green, and purple, inclining to a bluish colour. The distinction of these proceeds from the radius of the Sun, reflecting upon the vapours; and those colours are light in it which are nearest to the Sun, and those which are most remote always tend more to obscurity; for a demonstration, both of the colours and form of the rainbow, it only requires to cast water in a circular manner against the Sun when it shines, and the whole is produced artificially.

Some think the red colour only is made by the Sun's rays, and suppose the second colour is produced by reflection, and the third by the second; and that all are contained within one condensed hollow cloud, co-mixed with airy and watery exhalations. For, if more rainbows than one appear at a time, it is certain that they are produced by reflection of one another; but the colours in the second will be weaker than those in the first; and the third rainbow will be more palid than the second, if there happen to be three, which is very seldom: then the colours in the first will be counterchanged in the second, and the third again like the first. The arches in the clouds or rainbow usually continue longer than the circles about the Sun, because the distance in these are so great, that his beams cannot so soon dissipate the exhalations which caused them. Rainbows in the night-time are exceeding rare, because they are made by the Moon, whose beams are too weak to cause such reflections upon any cloud at so great a distance; but, though they are rare, they sometimes happen.

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The *Aurora Borealis*, or northern light, is an extraordinary meteor, or luminous appearance, shewing itself in the night-time in the northern part of the heavens. It is usually of a reddish colour, inclining to yellow, and sends out frequent corruscations of pale light, which seem to rise from the horizon in a pyramidal undulating form, and shoot, with great velocity, up to the zenith.

The *Aurora Borealis* appears most commonly in form of an arch ; chiefly in the spring and autumn ; after a dry year. The arch is partly bright, partly dark ; but generally transparent. And the matter of which it consists is also found to have no effect on the rays of light which pass through it. Dr. Hamilton observes, that he could plainly discern the smallest speck in the Pleiades through the density of those clouds which formed part of the *Aurora Borealis* in 1763, without the least diminution of its splendor, or increase of twinkling.

This kind of meteor never appears near the equator, and was so rare in England, that none are recorded in our annals since that remarkable one, November 14, 1574, till the surprising *Aurora Borealis*, March 6, 1716, which appeared for three nights successively, and put the whole kingdom into the utmost consternation, terrifying brutes as well as men. Indeed the horses were so frightened, that no fences could keep them in the inclosures ; it was impossible to travel in the evenings, and the road-waggons, and all other carriages, were obliged to lie by immediately that the Sun was down. In the years 1707 and 1708, five small ones were observed in little more than eighteen months ; but they have no comparison with the above. Hence it should seem, that the air, or earth, or both, are not at all times disposed to produce this phenomenon, for, though it is possible it may happen in the day-time, in bright moon-shine, or in cloudy weather, and so pass unobserved ; yet that it should appear so frequent at some times, and so seldom at others, cannot well this way be accounted for. That in March, 1716, was visible to the west of Ireland, and the confines of Russia, and to the east of Poland ; extending at least near thirty degrees of longitude, and from about the fiftieth degree in latitude, over almost all the north of Europe ; and in all places at the same time it exhibited the like wonderful appearances.

Many attempts have been made to assign the cause of this phenomenon. Dr. Halley imagines the watery vapours, or effluvia, rarefied exceedingly by subterraneous fire, and tinged with sulphureous streams, which many naturalists have supposed to be the cause of earthquakes, may also be the cause of this appearance : or that it is produced by a kind of subtile mat-

ter, freely pervading the pores of the earth, and which, entering into it nearer the southern pole, passes out again, with some force, into the æther at the same distance from the northern; the obliquity of its direction being proportioned to its distance from the pole. This subtile matter, by becoming some way or other more dense, or having its velocity increased, may be capable of producing a small degree of light, after the manner of effluvia, from the electric bodies, which, by a strong and quick friction, emit light in the dark: to which sort of light this seems to have a great affinity.

The celebrated M. de Mairan, in an express treatise on the *Aurora Borealis*, published in 1731, assigns its cause to the zodiacal light, which, according to him, is no other than the Sun's atmosphere: this light happening, on some occasions, to meet the upper parts of our air, on the side of the limits where universal gravity begins to act more forcibly towards the earth than towards the Sun, falls into our atmosphere, to a greater or less depth, as its specific gravity is greater or less, compared with the air through which it passes. Mr. Fuller thinks the cause of the *Aurora Borealis* not owing to the zodiacal light, as M. de Mairan supposes; but to particles of our atmosphere, driven beyond its limits by the impulse of the light of the Sun. On this supposition, he endeavours to account for the phenomena observed concerning this light. He supposes the zodiacal light, and the tails of comets, to be owing to a similar cause. This light sometimes appears remarkably red, as it happened December 5, 1737, of which there are a variety of accounts from different parts of Europe.

Ever since the identity of lightning, and of the electric matter, has been ascertained, philosophers have been naturally led to seek the explanation of aerial meteors in the principles of electricity; and they seem to have no doubt but most of them, and especially the *Aurora Borealis*, are formed of electrical matter. Besides the more obvious and known appearances which constitute a resemblance between this meteor and the electric matter whereby lightning is produced, it has been observed, that the *Aurora* occasions a very sensible fluctuation in the magnetic needle; and that, when it has extended lower than usual into the atmosphere, the flashes have been attended with various sounds of rumbling and hissing, taken notice of both by Sig. Beccaria and M. Messier. Mr. Canton, soon after he had obtained electricity from the clouds, offered a conjecture, that the *Aurora Borealis* is occasioned by the dashing of electric fire from positive towards negative clouds at a great distance, through the upper part of the atmosphere where the resistance is least. And he
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supposes, that the *Aurora*, which happens at the time when the magnetic needle is disturbed by the heat of the earth, is the electricity of the heated air above it; and this appears chiefly in the northern regions, as the alteration in the heat of the air in those parts will be the greatest; nor is this hypothesis improbable, when it is considered, that clouds surcharged with electrical matter are the cause of thunder and lightning; that it has been extracted from the air at the time of an *Aurora Borealis*; that the inhabitants of the northern countries observe it to be remarkably strong when a sudden thaw succeeds very severe cold weather; and that the tourmalin is known to emit and absorb the electric fluid only by the increase or diminution of its heat.

Positive and negative electricity in the air, with a proper quantity of moisture to serve as a conductor, is supposed to account for this and other meteors, sometimes seen in a serene sky. Mr. Canton has since contrived to exhibit this meteor by means of the Torricellian vacuum, in a glass tube about three feet long, and sealed hermetically. When one end of the tube is held in the hand, and the other applied to the conductor, the whole tube will be illuminated from end to end; and will continue luminous, without interruption, for a considerable time, after it has been removed from the conductor. If, after this, it be drawn through the hand either way, the light will be uncommonly intense, and without the least interruption, from one hand to the other, even to its whole length. And, though a great part of the electricity is discharged by this operation, it will still flash at intervals, when held only at one extremity, and kept quite still; but, if it be grasped by the other hand at the same time in a different place, strong flashes of light will hardly ever fail to dart from one end to the other, and these will continue twenty-four hours, and longer, without any fresh excitation. An arched double barometer, of a considerable height, is an improvement of this contrivance, for exhibiting the appearance of an *Aurora Borealis* by means of the electric fire. Signor Beccaria, who has pursued his observations on atmospherical electricity farther than any of his associates in these enquiries, conjectures that there is a constant and regular circulation of the electric fluid from north to south; and he thinks, that the *Aurora Borealis* may be this electric matter performing its circulation in such a state of the atmosphere as renders it visible, or approaching nearer the earth than usual. Dr. Franklin supposes, that the electrical fire discharged into the polar regions from many leagues of vaporised air raised from the ocean between the tropics, accounts for the *Aurora Borealis*; and that it appears first, where it is first in motion, i. e. in the most northern part, and the appearance proceeds southward, though the fire really moves northward.

All this, however, appears to be little more than the conjectural speculation of modern philosophers. The ancients, it is plain, never saw this phenomenon; nor did it ever occur in their days, since no mention whatever is made of it in their writings, nor is any notice taken of it in the records of the moderns until the year 1571, which is the first time, I believe, the *Aurora Borealis* ever made its appearance in the world; and, being a new phenomenon in nature, must undoubtedly have been produced by some great conjunction, or by the violent heat of some invisible comet, or by a variation in the frame and system of the world, or of the heavenly bodies, which at that particular æra must have taken place, and which still continues, at times, to produce the same luminous and fiery appearance.

Blazing stars are fiery luminous appearances, generated in the upper region of the air, and formed into a body, whence they take an oblique direction with astonishing velocity, and descend to the earth. The light they convey will sometimes exceed that of the Moon, as was the case a few years since, with a very remarkable one, which passed from north to south, very near the surface of the earth, and was supposed to fall into the sea. Their appearance is at once beautiful and tremendous.

Signor Beccaria, in one of his philosophical papers, makes mention of a very remarkable one, which appeared about an hour after sun-set, and directed its course immediately towards the spot where he and some friends were walking. It grew apparently larger and larger as it approached, and went off very near them; when it left their faces, hands, and clothes, with the earth, and all the neighbouring objects, suddenly illuminated with a diffused and lambent light, but without any noise.

Blazing stars are likewise understood by some to mean comets, on account of their tails, or the extended train of light or fire which is observed to issue from them. But, as the doctrine of comets is an immense speculation, I shall treat of them under a distinct and separate head.

OF C O M E T S.

A Comet is now certainly defined to be a heavenly body, in the planetary region, appearing suddenly, and again disappearing; and, during the time of its appearance, moving in a proper though very eccentric orbit, like a planet. As to their nature, the unfrequency of their appearing, together with the seeming irregularities of their phenomena, have

have left philosophers much in the dark. Those who lived before Aristotle accounted for them by supposing the heavenly spaces full of an infinite number of stars; and many of them too remote, or too small, to have ever come under the notice of astronomers: these invisible stars they farther supposed to move by their own proper motion every way; finishing their courses in very unequal times. And a comet, according to them, was a vast heap or assemblage of these little stars, meeting together, by reason of the inequality of their motions, and uniting into a visible mass; which must again disappear, as those stars separated, and each proceeded in its course. But, how those stars should thus meet, coalesce, and form a body, which in all positions of the Sun should resemble a tail, and again separate, is totally inexplicable. This opinion Aristotle overturned, by substituting another in its stead: he insisted that comets were only a kind of transient fires, or meteors, consisting of exhalations raised to the upper region of the air, and there set on fire, far below the Moon's course. But neither is this hypothesis more just than the other: for, on this principle, the light of the comet, being independent of the Sun, would be dispersed every way alike, without any appearance of a train, or tail, which is contrary to the phenomena. Moreover, they are observed at the same time in places on the earth very remote from each other. Besides, the modern astronomers who have measured the distance between the comets and the earth, find that the comets have no sensible diurnal parallax; which could not be, were they not much more remote than the Moon, whose parallax is sensible: and yet, as they have a sensible annual parallax, they are not so remote as the fixed stars. Tycho Brahe was the first among the moderns, who, after diligently observing the comet of 1577, and finding that it had no sensible diurnal parallax, assigned it its true place in the planetary regions.

Hevelius, from a great number of observations, proposes it as his opinion, that the comets, like the solar maculæ, or spots, are formed and condensed out of the grosser exhalations of his body. In which notion he agrees nearly with Kepler, who maintains, that comets are generated in the æther in vast numbers, like fishes in the ocean; though they do not all become visible, either because of their smallness, or because they lie a long time under the horizon.

But Sir Isaac Newton has shewn the fallacy of this hypothesis, by proving that the comet of 1680, in its passage through the neighbourhood of the Sun, would have been dissipated, had it consisted of exhalations of the Sun and planets; for the heat of the Sun, it is allowed, is as the density of his rays, i. e. reciprocally as the squares of the

distances of places from the Sun. Wherefore, since the distance of that comet in its perihelion, December the 8th, was observed to be to the distance of the earth from the Sun nearly as 6 to 1000; the Sun's heat in the comet, at that time, was to his heat with us at Midsummer, as 1000000 to 36, or 28000 to 1. And again, finding by experiment that the heat of boiling water is little more than three times the heat of our dry earth, when exposed to the Midsummer's Sun; and assuming the heat of red-hot iron to be about three or four times as great as that of boiling water; he thence concludes, that the heat of the dried earth, or body of the comet in its perihelion, must be near 2000 times as great as that of red-hot iron.

Such an immense heat once acquired in its perihelion, the comet must be a long time in cooling again. The same author computes, that a globe of red-hot iron, of the dimensions of our earth, would scarce be cool in 50000 years. If then the comet be supposed to cool 100 times as fast as red-hot iron, yet, since its heat was 2000 times greater, supposing it of the bigness of the earth, it would not be cool in a million of years.

James Bernouilli, in his *Systema Cometarum*, supposes some primary planet revolving round the Sun in the space of four years and one hundred and fifty-seven days, and at the distance from his body of 2583 semidiameters of the *magnus orbis*; this planet, he concludes, either from its vast distance or smallness, to be invisible to us: but, however, to have, at various distances from him, several satellites moving round him, and sometimes descending as low as the orbit of Saturn; and that these becoming visible to us, when in their perigæum, are what we call comets.

Des Cartes advances another opinion: he conjectures, that comets are only stars, formerly fixed, like the rest, in the heavens; but which, becoming by degrees covered with maculæ, or spots, and at length wholly robbed of their light, cannot keep their place, but are carried off by the vortices of the circumjacent stars; and, in proportion to their magnitude and solidity, moved in such manner as to be brought nearer the orb of Saturn; and thus, coming within reach of the Sun's light, rendered visible.

But the vanity of all these hypotheses abundantly appears from the phenomena of comets; the chief of which are as follow: 1st, Those comets, which move according to the order of the signs, do all, a little before they disappear, either advance slower than usual, or else go retro-

grade, if the earth be between them and the Sun : and more swiftly, if the earth be situate in a contrary part. On the other hand, those which proceed contrary to the order of the signs, proceed more swiftly than usual, if the earth be between them and the Sun ; and more slowly, or go retrograde, when the earth is in a contrary part. 2d, So long as their velocity is increased, they move, nearly, in great circles ; but towards the end of their course, they deviate from those circles ; and as often as the earth proceeds one way, they go the contrary way. 3d, They move in ellipses, having one of their foci in the centre of the Sun ; and, by radii drawn to the Sun, describe areas proportionable to the times. 4th, The light of their bodies, or nuclei, increases in their recess from the earth toward the Sun ; and on the contrary, decreases in their recess from the Sun. 5th, Their tails appear the largest and brightest, immediately after their transit through the region of the Sun, or after their perihelion. 6th, The tails always decline from a just opposition to the Sun towards those parts which the bodies, or nuclei, pass over, in their progress through their orbits. 7th, This declination, *cæteris paribus*, is the smallest, when the heads, or nuclei, approach nearest the Sun : and is less, still, nearer the nucleus of the comet, than towards the extremity of the tail. 8th, The tails are somewhat brighter, and more distinctly defined, in their convex than in their concave part. 9th, The tails always appear broader at their upper extreme than near the centre of the comet. 10th, The tails are always transparent, and the smallest stars appear through them.

These are the chief phenomena of comets ; which, it is evident, cannot easily be reconciled with the wild notions of the ancients, and the weak conjectures of many of the moderns. Indeed, there were some, Pliny tells us, among the ancients, who, “ had juster notions ; who “ took these stars to be perpetual, and believed they moved in their “ proper orbs ; but were never seen, unless when left by the Sun.” Apollonius Myndius declared, that he took comets for regular stars ; and ventured to foretel, that one day the periods and laws of their motion would be discovered. And more fully Seneca, *Quæst. Nat. lib. vii.* “ I am not of the common opinion, nor do I take a comet to be a sudden “ fire, but esteem it among the eternal works of nature.” *Quid autem miramur cometas, tam rarum mundi spectaculum, nondum teneri legibus certis, nec initia illorum finesque innotescere, quorum ex ingentibus nec intervallis recursus est ? Veniet tempus quo ista quæ nunc latent in lucem dies extrahat, & longioris ævi diligentia. Veniet tempus quo posteri nostri tam aperta nos nescisse mirentur. Erit qui demonstret aliquando, in quibus cometæ partibus errent : cur tam se ducti a cæteris errent, quanti qualesque sint.*

This

This prediction we have seen accomplished in our days, by the great Sir Isaac Newton; whose doctrine is as follows:

The comets, he says, are compact, solid, fixed, and durable, bodies: in one word, a kind of planets; which move, in very oblique orbits, every way with the greatest freedom; persevering in their motions, even against the course and direction of the planets; and their tail is a very thin slender vapour, emitted by the head, or nucleus of the comet, ignited or heated by the Sun. This at once solves all the foregoing phenomena: for, "It is evident, that those which proceed according to the order of the signs, a little before they disappear, must move more slowly, or appear retrograde, if the earth be betwixt them and the Sun; and swifter if the earth be in a contrary part. On the contrary, those proceeding against the order of the signs," &c. For since this course is not among the fixed stars, but among the planets; as the motion of the earth either conspires with them, or goes against them; their appearance, with regard to the earth, must be changed; and, like the planets, they must sometimes appear swifter, sometimes slower, and sometimes retrograde. "When the comets move the swiftest, they must proceed in straight lines; but, in the end of their course, decline," &c. Because, in the end of their course, when they recede almost directly from the Sun, that part of the apparent motion which arises from the parallax, must bear a greater proportion to the whole apparent motion.

The comets must move in ellipses, having one of their foci in the centre of the Sun. Because they do not wander precariously from one fictitious vortex to another; but, making a part of a solar system, return perpetually, and run a constant round. Hence, their elliptic orbits being very long and eccentric, they become invisible when in that part most remote from the Sun. From considering the curvity of the paths of comets, Sir Isaac concludes, that, when they disappear, they are much beyond the orb of Jupiter; and that in their perihelion, they frequently descend below the orbit of Mars and the inferior planets. The light of their nuclei must increase in their recess from the Sun, and *vice versa*. Because, as they are in the regions of the planets, their access toward the Sun bears a considerable proportion to their whole distance.

From observations of the comet of 1680, Sir Isaac Newton found that the vapour in the extremity of the tail, January 25th, began to ascend from the head before December 11; and had therefore spent more than forty-five days in its ascent; but that all the tail which appeared

peared December 10th ascended in the space of those two days, then just past since its perihelion. The vapour, therefore, at the beginning, when the comet was near the Sun, ascended prodigiously swift; and afterwards continued to ascend with a motion retarded by the gravity of its particles; and by that ascent increased the length of the tail; but the tail, notwithstanding its length, consisted almost wholly of vapours, which had ascended from the time of its perihelion; and the vapour which ascended first, and composed the extreme part of the tail, did not vanish till it was too far from the Sun to be illuminated by him, and from us to be visible. Hence also, the tails of comets that are shorter do not ascend with a quick and continual motion from the head, and then presently disappear; but are permanent columns of vapours and exhalations, gathered from the head, by a very gentle motion, and a great space of time; which yet, by participating of that motion of their heads they had at the beginning, continue easily to move along with their heads through the celestial regions; whence also the vacuity of those regions is argued.

Their tails must appear the largest and brightest immediately after their transit through the region of the Sun. Because, then, their heads, being the most heated, will emit the most vapours. From the light of the nucleus, or apparent star, we infer their vicinity to the earth, and that they are by no means in the region of the fixed stars, as some have imagined; since, in that case, their heads would be no more illuminated by the Sun than the planets are by the fixed stars. The tails must still decline from a distinct opposition to the Sun towards the parts which the heads pass over in their progress through their orbits; because all smoke, or vapour, emitted from a body in motion, tends upwards obliquely, still receding from that part towards which the smoking body proceeds. That declination will be still the least near the nucleus of the comet, and when the comet is nearest the Sun; because the vapour ascends more swiftly near the head of the comet than in the higher extremity of its tail; and when the comet is at a less distance from the Sun than when at a greater. The tail is brighter and better defined in its convex part than in its concave; because the vapour in the convex part, which goes first, being somewhat nearer and denser, reflects the light more copiously. The tail must appear broader towards the higher extremity of the comet than towards the head; because the vapour in a free space is perpetually rarefied and dilated. The tails must be transparent, because consisting of infinitely thin vapour, &c. Thus accurately does the hypothesis tally to the phenomena.

The nuclei, which we occasionally call the heads and bodies of comets, viewed through a telescope, shew a very different face from those of the fixed stars, or planets. They are liable to apparent changes, which Sir Isaac Newton ascribes to changes in the atmosphere of comets: and this opinion was confirmed by observations of the comet in 1744. Sturmius tells us, that, observing the comet of 1680, with a telescope, it appeared like a coal dimly glowing, or a rude mass of matter illuminated with a dusky fumid light, less sensible at the extremes than in the middle; rather than as a star, which appears with a round disk, and a vivid light.

Havelius observed of the comet of 1661, that its body was of a yellowish colour, very bright and conspicuous, but without any glittering light: in the middle was a dense ruddy nucleus, almost equal to Jupiter, encompassed with a much fainter thinner matter. February 5th, its head was somewhat bigger and brighter, of a gold colour; but its light more dusky than the rest of the stars: here, the nucleus appeared divided into several parts. February 6th, the disk was lessened; the nuclei still existed, though less than before: one of them, on the lower part of the disk, on the left, much denser and brighter than the rest; its body round, and representing a very lucid little star: the nuclei still encompassed with another kind of matter. February 10th, the head somewhat more obscure, and the nuclei more confused, but brighter at top than bottom. February 13th, the head diminished much, both in magnitude and brightness. March 2d, its roundness a little impaired, its edges lacerated, &c. March 28th, very pale and exceeding thin; its matter much dispersed; and no distinct nucleus at all appearing.

Weigelius, who saw the comet of 1664, the Moon, and a little cloud illuminated by the Sun at the same time, observed that the Moon, through the telescope, appeared of a continued luminous surface; but the comet very different; being perfectly like a little cloud in the horizon, illuminated by the Sun. From these observations it was, that Hevelius concluded comets to be like maculæ, or spots, formed out of the solar exhalations.

The estimates that have been given by Tycho, Hevelius, and some others, of the magnitude of comets, are not sufficiently accurate to be depended upon; for it does not appear, that they distinguished between the nucleus and the surrounding atmosphere. Thus Tycho computes that the true diameter of the comet in 1577 was in proportion to the diameter of the earth as 3 is to 14. Hevelius made the diameter of the comet of 1652 to that of the earth as 52 to 100. The diameter of

the atmosphere is often ten or fifteen times as great as that of the nucleus; the former, in the comet of 1682, when measured by Flamsteed, was found to be two minutes, but the diameter of the nucleus only eleven seconds. Some comets, from the apparent magnitude and distance compared, have been judged to be much larger than the Moon, and even equal to some of the primary planets. The diameter of that of 1744, when at the distance of the Sun from us, measured about one minute, and therefore its diameter must be about three times the diameter of the earth: at another time the diameter of its nucleus was nearly equal to that of Jupiter.

The lengths of the tails of comets are various, and depend on a variety of circumstances. Longomontanus mentions a comet that in 1618, December 10th, had a tail above one hundred degrees in length; that of 1680, according to Sturm, about the 20th of November, was but small; at most, not exceeding twenty degrees in length; in a little time it grew to a length of sixty degrees, after which it dwindled very sensibly. The comet of 1744 had a tail which at one time appeared to extend above sixteen degrees from its body; and which, allowing the Sun's parallax ten seconds, must have been above twenty-three millions of miles in length.

Sir Isaac Newton shews, that the atmosphere of comets will furnish vapour sufficient to form their tails; this he argues from that wonderful rarefaction observed in our air at a distance from the earth: a cubic inch of common air, at the distance of half the earth's diameter, or four thousand miles, would necessarily expand itself so far as to fill a space larger than the whole region of the stars. Since then the coma or atmosphere of a comet is ten times higher than the surface of the nucleus, counting from the centre thereof, the tail, ascending much higher, must necessarily be immensely rare: so that it is no wonder the stars should be visible through it.

Now, the ascent of vapours into the tail of the comet he supposes occasioned by the rarefaction of the matter of the atmosphere at the time of the perihelion. Smoke, it is observed, ascends the chimney by the impulse of the air wherein it floats; and air, rarefied by heat, ascends by diminution of its specific gravity, taking up the smoke along with it: why then should not the tail of a comet be supposed to be raised after the same manner by the Sun? for the Sun-beams do not act on the mediums they pass through any otherwise than by reflection and rarefaction. The reflecting particles, then, being warmed by the action, will
again

again warm the æther wherewith they are compounded; and this, rarefied by the heat, will have its specific gravity, whereby it before tended to descend, diminished by the rarefaction, so as to ascend, and carry along with it those reflecting particles whereof the tail of the comet is composed. This ascent of the vapours will be promoted by their circular motion round the Sun; by means whereof, they will endeavour to recede from the Sun, while the Sun's atmosphere, and the other matters in the celestial spaces, are either at rest, or nearly so; as having no motion but what they receive from the Sun's circumrotation. Thus are the vapours raised into the tails of comets in the neighbourhood of the Sun, where the orbits are most curve; and where the comets, being within the denser atmosphere of the Sun, have their tails of the greatest length.

The tails thus produced, by preserving that motion, and at the same time gravitating towards the Sun, will move round his body in ellipses, in like manner as their heads; and, by this means, will ever accompany, and freely adhere to, their head. In effect, the gravitation of the vapours towards the Sun will no more occasion the tails of the comets to forsake their heads, and fall down towards the Sun, than the gravitation of their heads will occasion them to fall off from their tails; but by their common gravitation they will either fall down together to the Sun, or be together suspended or retarded. This gravitation, therefore, does not at all hinder but that the heads and tails of comets may receive and retain any position towards each other, which either the above-mentioned causes or any other may occasion. The tails, therefore, thus produced in the perihelion of comets, will go off, along with their heads, into remote regions; and either return thence, together with the comets, after a long series of years; or, rather, be there lost, and vanish by little and little, and the comets be left bare; till, at their return, descending towards the Sun, some little short tails are gradually and slowly produced from the heads; which, afterwards, in the perihelion, descending into the Sun's atmosphere, will be immensely increased.

The vapours, when they are thus dilated, rarefied, and diffused, through all the celestial regions, the same author observes, may probably, by little and little, by means of their own gravity, be attracted down to the planets, and become intermingled with their atmospheres. He adds likewise, that, for the conservation of the water and moisture of the planets, comets seem absolutely requisite; from whose condensed vapours and exhalations, all that moisture, which is spent in vegetations and putrefactions, and turned into dry earth, &c. may be re-supplied and recruited.

crusted. For all vegetables grow and increase wholly from fluids; and, again, as to their greatest part, turn, by putrefaction, into earth again; an earthy slime being perpetually precipitated to the bottom of putrefying liquors. Hence, the quantity of dry earth must continually increase, and the moisture of the globe decrease, and at last be quite evaporated, if it has not a continual supply from some part or other of the universe. And I suspect, adds our great author, that the spirit, which makes the finest, subtlest, and the best, part of our air, and which is absolutely requisite for the life and being of all things, comes principally from the comets.

On this principle, there seems to be some foundation for the popular opinion of presages from comets; since the tail of a comet, thus intermingled with our atmosphere, may produce changes very sensible in animal and vegetable bodies. Another use which he conjectures comets may be designed to serve, is that of recruiting the Sun with fresh fuel, and repairing the consumption of his light by the streams continually sent forth in every direction from that luminary. In support of this conjecture, he observes, that comets in their perihelion may suffer a diminution of their projectile force by the resistance of the solar atmosphere; so that by degrees their gravitation towards the Sun may be so far increased as to precipitate their fall into his body.

There have been various conjectures about the generation of the tails of comets. Appian, Tycho Brahe, and some others, apprehended that they were produced by the Sun's rays transmitted through the nucleus of the comet, which they supposed to be transparent, and there refracted as in a lens of glass, so as to form a beam of light behind the comet. Des Cartes accounted for the phenomenon of the tail by the refraction of light from the head of the comet to the eye of the spectator. Mairan supposes that the tails are formed out of the luminous matter that composes the Sun's atmosphere; M. De la Lande combines this hypothesis with that of Newton above recited. Mr. Rowning, who is not satisfied with Sir Isaac's opinion, accounts for the tails of comets in the following manner. It is well known, says he, That, when the light of the Sun passes through the atmosphere of any body, as the earth, that which passes on one side is, by the refraction thereof, made to converge toward that which passes on the opposite one; and the convergency is not wholly effected either at the entrance of the light into the atmosphere, or at its going out; but, beginning at its entrance, it increases in every point of its progress. It is also agreed, that the atmospheres of the comets are very large and dense. He therefore supposes that, by such time as the light

of the Sun has passed through a considerable part of the atmosphere of a comet, the rays thereof are so far refracted toward each other, that they then begin sensibly to illuminate it, or rather the vapours floating therein, and so render that part they have yet to pass through visible to us : and that this portion of the atmosphere of a comet thus illuminated appears to us in form of a beam of the Sun's light, and passes under the denomination of a comet's tail.

We have an enquiry into the cause of the tails of comets, by Mr. Euler. He thinks there is a great affinity between these tails, the zodiacal light, and the *Aurora Borealis* ; and that the common cause of them all is the action of the Sun's light on the atmosphere of the comets, of the Sun, and of the earth. He supposes, that the impulse of the rays of light on the atmosphere of comets may drive some of the finer particles of that atmosphere far beyond its limits ; and that this force of impulse, combined with that of gravity towards the comet, would produce a tail, which would always be in opposition to the Sun, if the comet did not move. But the motion of the comet in its orbit, and about an axis, must vary the position and figure of the tail, giving it a curvature, and deviation from a line drawn from the centre of the Sun to that of the comet ; and that this deviation will be greater, as the orbit of the comet has the greater curvature, and that the motion of the comet is more rapid. It may even happen, that the velocity of the comet, in its perihelion, may be so great, that the force of the Sun's rays may produce a new tail before the old one can follow ; in which case the comet might have two or more tails. The possibility of this is confirmed by the comet of 1744, which was observed to have several tails while it was in its perihelion.

Dr. Hamilton urges several objections against the Newtonian hypothesis ; and concludes that the tail of a comet is formed of matter which has not the power of refracting or reflecting the rays of light ; but that it is a lucid or self-shining substance, and, from its similarity to the *Aurora Borealis*, produced by the same cause, and a proper electrical phenomenon. Dr. Halley seemed inclined to this hypothesis, when he said, that the streams of light in an *Aurora Borealis* so much resembled the long tails of comets, that at first sight they might well be taken for such : this light seems to have a great affinity to that which the effluvia of electric bodies emit in the dark.

M. Fatio has suggested, that some of the comets have their nodes so very near the annual orbit of the earth, that, if the earth should hap-

pen to be found in that part next the node, at the time of a comet's passing by, the most dreadful consequences might be apprehended; as the apparent motion the comet will be incredibly swift, so its parallax will become very sensible; and the proportion thereof to that of the Sun will be given: whence such transits of comets will afford the best means of determining the distance of the earth and Sun.

The comet of 1472, had a parallax above twenty times greater than the Sun's: and, if that of 1618 had come down in the beginning of March to its descending node, it would have been much nearer the earth, and its parallax much more notable. But, hitherto, none has threatened the earth with a nearer appulse than that of 1680: for, by calculation, Dr. Halley finds, that, November 11th, 1 h. 6 min. P. M. that comet was not above one semidiameter of the earth to the northward of the way of the earth; at which time, had the earth been in that part of its orbit, the comet would have had a parallax equal to that of the Moon: what might have been the consequence of so near an appulse, a contact, or, lastly, a shock of the celestial bodies? Mr. Whiston says, a deluge!

If the paths of comets be supposed directly parabolical, as some have imagined, it would follow, that, being impelled toward the Sun by a centripetal force, they descend as from spaces infinitely distant; and by their falls acquire such a velocity, as that they may again run off into the remotest regions: still moving upwards with such a perpetual tendency as never to return. But the frequency of their appearance, and their degree of velocity, which does not exceed what they might acquire by their gravity towards the Sun, seems to put it past doubt that they move, planet-like, in elliptic orbits, though exceedingly eccentric; and so return again, after very long periods. The apparent velocity of the comet of 1472, as observed by Regiomontanus, was such as to carry it through forty degrees of a great circle in twenty-four hours: and that of 1770 was observed to move through more than forty-five degrees in the last twenty-five hours.

Newton, Flamsteed, Halley, and the English astronomers, seem satisfied of the return of comets: Cassini, and others of the French, think it highly probable; but De la Hire, and others, oppose it. Those on the affirmative side suppose the comets to describe orbits prodigiously eccentric, insomuch that we can only see them in a very small part of their revolution; out of this, they are lost in the immense spaces; hid not only from our eyes, but our telescopes. That little part of their orbit near us, M. Cassini, &c. have found to pass between the orbits of Venus and Mars. For the reasons of the return of comets, M. Cassini gives these

these which follow: 1. In considering the course of the comets, with regard to the fixed stars, they are found to keep a considerable time in the arch of a great circle, i. e. a circle whose plane passes through the centre of the earth: indeed, they deviate a little from it, chiefly towards the end of their appearance; but this deviation is common to them with the planets. 2. Comets, as well as planets, appear to move so much the faster as they are nearer the earth; and, when they are at equal distances from their perigee, their velocities are nearly the same.

By subtracting from their motion the apparent inequality of velocity occasioned by their different distances from the earth, their equal motion might be found; but we should not be certain this motion were their true one; because they might have considerable inequalities, not distinguishable in that small part of their orbit visible to us. It is, indeed, probable, their real motion, as well as that of the planets, is unequal in itself: and hence we have a reason why the observations made during the appearance of a comet cannot give the just period of their revolution.

There are no two different planets whose orbits cut the ecliptic in the same angle, whose nodes are in the same points of the ecliptic, and whose apparent velocity in their perigee is the same: consequently, two comets seen at different times, yet agreeing with all those three circumstances, can only be one and the same comet. And this were the comets of 1577 and 1680 observed to do, and those of 1652 and 1698; not that this exact agreement, in these circumstances, is absolutely necessary to determine them the same comet. M. Cassini finds the Moon herself irregular in them all: accordingly, he is of opinion, there are several which disagree herein, and yet may be accounted the same.

The great objection against the return of comets, is, the rarity of their appearance, with regard to the number of revolutions assigned to them. In 1702, there was a comet, or rather the tail of one, seen at Rome, which M. Cassini takes to be the same with that observed by Aristotle, and that since seen in 1668, which would imply its period to be thirty-four years. Now, it may seem strange, that a star which has so short a revolution, and of consequence such frequent returns, should be so seldom seen.—Again, in April, of the same year, 1702, a comet was observed by Mess. Bianchini, and Maraldi supposed by the latter to be the same with that of 1664, both by reason of its motion, velocity, and direction. M. de la Hire took it to have some relation to another he had observed in 1698, which

which M. Caffini refers to that of 1652. On this supposition, its period appears to be forty-three months; and the number of revolutions, between 1652 and 1698, fourteen: but it is hard to suppose, that, in this age, wherein the heavens are so narrowly watched, a star should make fourteen appearances unperceived; especially such a star as this, which might appear above a month together, and of consequence be frequently disengaged from the crepuscula. For this reason M. Caffini is very reserved in maintaining the hypothesis of the return of comets, and only proposes those for planets, where the motions are easy and simple, and are solved without straining, or allowing many irregularities.

M. de la Hire proposes one general difficulty against the whole system of the return of comets, which would seem to hinder any comet from being a planet: and it is this; that, by the disposition necessarily given to their courses, they ought to appear as large at first as at last; and always increase, till they arrive at their greatest proximity to the earth: or, if they should chance not to be observed, as soon as they become visible, for want of attention thereto, at least it is impossible but they must frequently shew themselves before they have arrived at their full magnitude and brightness. But he adds, that none were ever yet observed till they had arrived at it. Yet the appearance of a comet in the month of October 1723, while at a great distance, so as to be too small and dim to be viewed without a telescope, may serve to remove this obstacle, and set the comets, still, on the same footing with the planets. Sir Isaac Newton supposes, that as those planets which are nearest the Sun, and revolve in the least orbits, are the smallest; so, among the comets, such as in their perihelion come nearest the Sun are the smallest, and revolve in smaller orbits.

Dr. Halley has given us a table of the astronomical elements of all the comets that have been yet observed with due care; whereby, whenever a new comet shall appear, it may be determined, by comparing it therewith, whether it be any of those which have yet appeared: and consequently its period, and the axis of its orbit, be determined, and its return foretold. This table contains the astronomical elements of twenty-four comets, on the supposition that they moved in parabolas; though he thought it extremely probable that they really moved in very eccentric ellipses, and consequently returned after long periods of time. This table commences with the year 1337, and closes with 1698.

T A B L E o f C O M E T S.

HALLEY'S TABLE OF THE ELEMENTS OF COMETS.																	
Comets.		Perihelion.								Distance from the sun; the difference of the Earth being 100000.		Time of the period.					
A. D.		°	'	"	°	'	"	°	'	"			D.	H.	M.		
1537	II	24	21	0	32	11	0	8	7	59	0	40665	Jan.	2	6	25½	retrog.
1472	☿	11	46	20	5	20	0	8	5	33	30	54473	Febru.	23	12	23	retrog.
1531	♄	19	25	0	17	56	0	2	1	39	0	56700	August,	24	21	18½	retrog.
1532	II	20	27	0	12	56	0	25	21	7	0	50610	Octob.	19	22	12	direct.
1556	♂	25	42	0	32	6	50	25	8	50	0	61320	April,	21	20	3	direct.
1577	♄	25	52	0	74	32	45	♄	9	22	0	18542	Octob.	26	18	45	retrog.
1580	♄	18	57	20	64	40	0	25	19	5	50	59628	Novem.	28	15	0	direct.
1585	♄	7	42	30	6	4	0	♄	8	51	0	109358	Septem.	27	19	20	direct.
1590	♂	15	30	40	22	40	40	♄	6	51	30	5761	January,	29	3	45	retrog.
1596	♄	12	12	30	55	12	0	♄	18	16	0	51293	July,	31	19	55	retrog.
1607	♄	20	21	0	17	2	0	♄	2	16	0	58680	Octob.	16	3	50	retrog.
1618	II	16	1	0	37	34	0	♄	2	14	0	37975	Octob.	29	12	23	direct.
1632	II	23	10	0	79	23	0	♄	28	13	40	84750	Novem.	2	15	40	direct.
1651	II	22	30	30	32	35	50	♄	25	53	40	44851	January,	16	23	41	direct.
1664	II	21	14	0	21	18	30	♄	10	41	25	102575½	Novem.	24	11	52	retrog.
1665	♂	13	2	0	76	5	0	II	11	54	30	10649	April,	14	5	15	retrog.
1672	♄	27	30	30	83	22	0	♄	16	59	30	69739	Febru.	20	8	37	direct.
1677	♄	26	49	10	79	3	15	♄	17	37	5	28059	April,	26	0	37½	retrog.
1680	☿	2	2	0	60	56	0	♄	22	39	30	00612	Decem.	8	0	6	direct.
1682	♄	21	16	30	17	56	0	♄	2	52	45	58328	Septem.	4	7	39	retrog.
1683	♂	23	23	0	33	11	0	II	25	29	30	56020	July,	3	2	50	retrog.
1684	♄	23	15	0	65	48	40	♄	23	52	0	96015	May,	29	10	16	direct.
1686	♄	20	34	40	31	21	40	II	17	0	30	32500	Septem.	6	14	33	direct.
1693	♄	27	44	15	11	46	0	☿	0	51	15	69129	October,	3	16	57	retrog.

Another table has since been computed, from the observations contained in the Philosophical Transactions, De la Caille's Astronomy, and De la Lande's Histoire de la Comete de 1759, & Connoissance des Mouvements Celestes, 1762 & 1764. In this table are seen the elements of twenty-five other comets, from the year 1264 to 1762. And, by comparing these tables it will be found that none of these comets, except that of 1769, appears to be the same with any other in either of the tables; unless we admit those of 1264 and 1556, and those of 1599 and 1699, to be the same.

T A B L E o f C O M E T S.

A SUPPLEMENT TO HALLEY'S TABLE OF THE ELEMENTS OF COMETS.													
Period of revolution				Longitude of the node				Perihelion				Perihelion distance from the sun	
Y. D.	D.	H.	M.	°	'	°	'	°	'	°	'	°	'
1564	July,	6	8	0	00	19	0	0	56	50	0	21	0
1533	June,	16	19	30	00	5	44	0	55	40	0	27	16
1593	July,	8	13	33	00	14	14	15	37	53	0	26	19
1678	August,	16	14	3	00	11	40	0	3	4	20	27	46
1607	January,	3	8	22	00	21	45	35	69	20	0	2	31
1701	March,	2	14	12	00	9	25	15	4	30	0	18	41
1726	January,	19	4	56	00	13	11	23	55	14	5	12	56
1707	Novem.	30	23	43	00	22	50	29	58	37	4	19	58
1718	January,	4	1	15	00	7	55	20	31	12	53	1	26
1725	Septem.	16	16	10	00	14	16	0	49	59	0	12	52
1729	June,	12	6	36	00	10	35	15	57	1	5	22	16
1737	January,	19	8	17	00	16	22	0	18	20	45	25	55
1739	June,	6	10	0	00	27	25	12	55	42	44	12	38
1742	January,	28	4	21	00	5	34	45	07	4	11	7	33
1742	Decem.	30	21	15	00	8	10	43	2	15	50	2	58
1743	Septem.	9	21	16	00	5	16	25	45	45	21	6	33
1744	Febru.	19	8	17	00	15	45	20	47	8	36	17	12
1747	Febru.	17	11	45	00	20	53	27	7	50	55	10	5
1748	April,	17	19	25	00	22	52	16	55	26	57	5	0
1748	June,	7	1	24	00	4	39	45	50	59	3	6	9
1757	October,	21	7	55	00	4	12	50	12	53	20	2	58
1759	March,	12	13	50	00	23	45	35	17	40	15	3	8
1759	Novem.	27	2	19	00	19	59	23	58	59	22	23	24
1759	Decem.	16	12	41	00	18	56	19	4	37	23	19	2
1762	May,	23	15	18	00	19	23	0	44	45	0	15	14

There are many things in the comet of 1532, observed by Peter Apian, which intimate its being the same with that of 1607, observed by Kepler and Longomontanus; and which Dr. Halley himself again observed in 1682. All the elements agree, and there is nothing contradicts the opinion but that inequality in the periodic revolution, which however he thinks is no more than may be accounted for from physical causes: no more in effect than is observed in Saturn; the motion of which planet is disturbed by the rest, especially Jupiter, that its period is uncertain for several days together: to what errors then may not a comet be liable, which rises to almost four times the height of the planet Saturn; and whose velocity, if but a little increased, would change its elliptic orb into a parabolic one?

What

What farther confirms the identity, is the appearance of another comet in the summer of 1456, which, though observed by none with accuracy, yet, by its period and the manner of its transit, he concludes to be the same; and thence ventured to foretel its return in the year 1758, or the beginning of the next year: and time has verified the prediction. The comet of 1661 seems to be the same with that of 1532, and to have its period in one hundred and twenty-nine years: and Halley also thought that the comet of 1680 was the same that was observed in 1106, 531, and in the forty-fourth year before Christ, when Julius Cæsar was murdered; and that its period was five hundred and seventy-five years. Mr. Dunthorne, in the *Philosophical Transactions*, vol. xlvii. has endeavoured to shew, from a MS. in Pembroke-hall Library, that that the comet of 1106 could not be same with that of 1680. But M. De la Lande adopts the opinion of Dr. Halley.

To determine the place and course of a comet, observe the distance of the comet from two fixed stars whose longitudes and latitudes are known: from the distances thus found, calculate the place of the comet by trigonometry; and, by repeating the observations and operations for several days successively, the course of the comet will be had. We might also determine the course of a comet mechanically, without any apparatus of instruments, by the following ingenious method, with a thread, which we owe to Longemontanus. Observe four stars round the comet, such as that the comet may be in the intersection of the right lines that join the two opposite stars; which is easily found by means of a thread placed before the eye, and extended over against the stars and comet. Find these four stars upon a globe, and extend two threads crossways, from one corner to the other of the square space described by the four stars, and the central point where the threads intersect each other will give the place of the comet. This practice being repeated for several days, the comet's course will be had on the globe; which course will be found to be a great circle, from any two points whereof it will be easy to find its inclination to the ecliptic, and the place of the nodes, only by observing where a thread, stretched through the two points, cuts the ecliptic.

Such is the doctrine of comets, as laid down from time to time both by the ancient and modern philosophers; but which, like most other abstruse phenomena, is founded pretty much upon conjecture and arbitrary conception. Should the comet of 1680 appear in or about the year 1792, as predicted by the ingenious Sir Isaac Newton, it will confirm a great deal of the foregoing speculation, as to their possessing a determinate place in the

system ; and will convince us that their revolutions, though extremely eccentric, are nevertheless definable, and such as may hereafter throw great light upon philosophical disquisitions.

My own opinion of comets, I purposely withhold, until I have an opportunity of making some observations upon the expected phenomenon in 1792 ; when, if it should appear, I propose offering to the public some conjectures upon it, in a separate pamphlet, so printed as to bind up with this work ; and I shall give a copper-plate print of it, describing the point where it will cross the earth's orbit ; and point out to the most unlettered mind the inevitable dissolution of the earth, when ever it falls in with, or meets, the fiery body of a comet in its approach to, or recess from, the body of the Sun, which is the centre of our system.

O F E C L I P S E S.

An Eclipse, from *εκλειψις*, of *εκλειπτις*, *to fail*, signifies a failure or privation of the light of one of the luminaries, by the interposition of some dark or opaque body falling between it and the eye, or between it and the Sun. The Moon, being a dark and opaque body, receives her light from the Sun by reflection ; which is proved by her increasing and decreasing in light as she is nearer or farther off from her conjunctions with the Sun. At the ecliptical conjunction, or new Moon, the dark body of the Moon passes directly between the Sun and us, which hides that luminary from our sight, and this constitutes an eclipse of the Sun ; but, at an ecliptical opposition, or full Moon, the Sun, the Earth, and the Moon, are in one direct and diametrical line ; the dark globe of the Earth, being then between the Sun and Moon, deprives the Moon of the Sun's light, whereby she becomes darkened and eclipsed, having no light of her own. The line or way wherein the Moon makes her constant periodical revolutions crosses the ecliptic wherein the Sun moves at an angle of about five degrees ; the distance of these lines constitutes the Moon's latitude ; and the places in the ecliptic which these lines intersect are called the Moon's nodes, or the Dragon's Head and Dragon's Tail. These intersections do not always happen in one place of the ecliptic, but move once through the same, contrary to the sequel or succession of the signs, in eighteen years and two hundred and twenty-five days.

If the Moon at full be distant from the Dragon's Head or Tail more than fifteen degrees, there can be no eclipse of the Moon ; and, when at the time of the change the Moon is more than nineteen degrees distant

from the Dragon's Head, according to the succession of the signs, there can be no eclipse of the Sun ; neither can there be any eclipse of the Sun, when the Moon at the change is above seven degrees from the Dragon's Tail, according to the succession of the signs, or more than seven degrees from the Dragon's Head, contrary to the succession of the signs.

Eclipses of the Sun are various both in quantity and quality, being beheld from different parts of the earth ; where he will appear partially eclipsed to a spectator on the north side of his body, and totally to a spectator on his south side ; whilst to others he will appear at the same instant not at all eclipsed. The reason is, the Sun in his eclipses is not darkened, but only hidden from our sight by the interposition of the Moon, whose various parallaxes produce this diversity in the Sun's eclipse.

The eclipse of the Moon, on the contrary, appears the same to all parts of the earth and to all people above whose horizon she is at that time elevated ; for, when she is deprived of the light of the Sun, she becomes really darkened. To estimate the quantities of the eclipses of either luminary, their diameters are supposedly divided into twelve equal parts, called digits, because their diameters appear to sight about a foot in length ; so that, when the Moon obscures half the Sun's diameter, he is said to be six digits eclipsed.

Amongst the celestial phenomena, the doctrine of eclipses takes precedence ; because from their observations the primary foundation of the whole body of astronomy is demonstrated and confirmed. Hence the solar eclipses manifest the Moon to be lower and less than the Sun ; the lunar eclipses prove that the earth is not founded infinitely below us, but that the heavens under us are distant from the earth as far upwards, in respect of our antipodes, as they are here ; and consequently that the Earth is not cubical, pyramidal, nor cylindrical, but on every side perfectly round, or terminated by a globular figure ; not only because the shadow of the earth in the Moon's body is always and on every part observed to be round, but also because those who live eastward number more hours from their meridian, for the beginning or ending of any eclipse, than such as live westward, proportionably to their distance.

Lunar eclipses demonstrate the shadow of the earth to be conical, terminating in a sharp point ; and the same place of the Moon's transits to be sometimes thicker, and at other times more slender, notwithstanding a certain rule and respect had to the Sun's motion ; and consequently

that the Sun is moved, or so seems to be, in an eccentrical orb. By eclipses of the Moon we also know that the Earth is moved or placed in the middle of the zodiac, because she is eclipsed in the opposite places thereof. The lunar eclipses best discover to us the longitude of places upon the Earth, and assure us that the Earth and Water make but one globe ; and the oriental and occidental eclipses of the Moon inform us, that one half of the world is always visible, and that one half of the zodiac rises above the horizon.

The true and certain place of the Moon cannot be had by any instrument whatsoever, because of her parallaxes. Nature, or rather the God of nature, hath therefore supplied this defect by her eclipses ; for the Moon posited in *mediis tenebris* is then understood to be opposite to the Sun, by which means the motions and mutations of the Moon are found out and rationally demonstrated. And, as by lunar eclipses we gather, that the Sun is far greater than the Earth, and the Moon less, so by solar eclipses we demonstrate the distance of the luminaries from the Earth to be different, and to be moved in eccentrics or epicycles ; whence a rule is found for measuring the distances of the Sun and Moon from the Earth, together with the magnitudes of the several celestial bodies.

Eclipses of the Moon only happen in the time of full Moon ; because it is only then the earth is between the Sun and Moon : nor do they happen every full Moon, by reason of the obliquity of the Moon's way with respect to the Sun's ; but only in those full Moons which happen either in the nodes, or very near them, where the aggregate of the apparent semidiameters of the Moon and the Earth's shadow is greater than the latitude of the Moon, or the distance between their centres.

The most considerable circumstances in the eclipses of the Moon are, That, as the sum of the semidiameters of the Moon and Earth's shadow is greater than the aggregate of the semidiameters of the Sun and Moon, (that, when least, being $5\frac{1}{2}$; and this, when greatest, scarce $3\frac{1}{2}$;) it is evident, lunar eclipses may happen in a greater latitude of the Moon and at a greater distance from the nodes, and, consequently, are more often observed, in any one part of the Earth, than solar ones ; though, with respect to the whole Earth, the latter are more frequent than the former, because the Sun's ecliptic limits are greater than the Moon's.

Total eclipses of the Moon, and those of the longest duration, happen in the very nodes of the ecliptic ; because the section of the Earth's shadow,

shadow, then falling on the Moon, is considerably greater than her disk. There may likewise be total eclipses within a little distance of the nodes; but the farther, the less their duration; farther off still, there are only partial ones, and at length none at all, as the latitude and the semidiameter of the Moon, together, are either less, equal to, or greater, than the semidiameter of the shadow. A lunar eclipse, that is both total and central, lasts three hours fifty-seven minutes six seconds from the beginning to the end, when the Moon is in her apogee, and three hours thirty seven minutes twenty-six seconds when in perigee; her horary motion being slowest in the former case, and quickest in the latter. In all lunar eclipses, the eastern side is what first immerses, and also emerges; so that, though, at first, the Moon be more westerly than the Earth's shadow, yet, her proper motion being swifter than the same, she overtakes and outgoes it. The Moon, even in the middle of an eclipse, has usually a faint appearance of light, resembling tarnished copper; which Gassendus, Ricciolus, Kepler, &c. attribute to the light of the Sun, refracted by the Earth's atmosphere, and transmitted thither. And lastly, she grows sensibly paler, and dimmer, before she enters within the Earth's shadow; which is attributed to the Earth's penumbra.

Solar eclipses, being an occultation of the Sun's body, occasioned by an interposition of the Moon between the Sun and the Earth, are distinguished, like those of the Moon, into total and partial, &c. to which must be added a third species, called annular. As the Moon is found to have a parallax of latitude, eclipses of the Sun only happen when the latitude of the Moon, viewed from the Earth, is less than the aggregate of the apparent semidiameters of the Sun and Moon. Solar eclipses therefore only happen when the Moon is in conjunction with the Sun, in or near the nodes, i. e. at the new Moons. Consequently, the memorable eclipse of the Sun, at our Saviour's passion, happening at the time of full Moon, when the Sun and Moon are in opposition, was preternatural. Besides, the darkness in total eclipses of the Sun never lasts above four minutes in one place; whereas the darkness at the crucifixion lasted three hours, (Matthew xxviii. 15.) and overspread at least all the land of Judea.

But, though the new Moon pass between the Sun and the Earth, yet is not there an eclipse every Moon; because the Moon's way is not precisely under the ecliptic, but is placed obliquely thereto, intersecting it twice in every period. So that eclipses can only be occasioned in such new Moons as happen in these intersections or nodes, or very near them. In the nodes, when the Moon has no visible latitude, the occultation is
total,

total; and with some continuance, when the disk of the Moon in perigæo appears greater than that of the Sun in apogæo, and its shadow is extended beyond the surface of the Earth; and without continuance, at moderate distances, when the cusp or point of the Moon's shadow barely touches the Earth. Lastly, out of the nodes, but near them, the eclipses are partial. The solar eclipses, though total, can never be universal or visible throughout the whole hemisphere which the Sun is then above, because the Moon's dark shadow covers only a spot on the Earth's surface, about one hundred and eighty English miles broad, when the Sun's distance is greatest, and the Moon's least; and thus far only can the total darkness extend; which explains the reason why a solar eclipse does not appear the same in all parts of the Earth where it is seen; but, when in one place it is total, in another it is only partial. And farther, that the Moon, when in her apogee, appears much less than the Sun, as happens most sensibly when he is in perigæo; the cusp of the lunar shadow not then reaching the Earth, she becomes in a central conjunction with the Sun, yet not able to cover his disk, but lets his whole limb appear like a lucid ring or bracelet; this is hence called an annular eclipse; which does not happen at the same time in all places where it is seen; but appears more early to the western parts, and later to the eastern, as will hereafter be further explained.

In most solar eclipses the Moon's disk is covered with a faint dawning light; which is attributed to the reflection of the light from the illuminated part of the Earth. In total eclipses of the Sun, the Moon's limb is seen surrounded by a pale circle of light; which some astronomers take for a manifest indication of a lunar atmosphere; but which is probably the atmosphere of the Sun; because it has been observed to move equally with the Sun, and not with the Moon; and besides, the Moon is now generally believed to have no atmosphere. The foregoing observations will be further illustrated by what follows.

TO PROJECT ECLIPSES OF THE SUN.

The Sun, being a luminous body, vastly larger than the Earth, will enlighten somewhat more than one half of it, and cause it to project a long conical shadow, as represented in the annexed plate, *fig. 1* where S is the Sun, E the Earth, and H B D its conical shadow.

The height or length of this shadow, at the mean distance of the Sun, may be found by this proportion: as the tangent of the angle C B D, or
 No. 49. 11 D the

the semi-diameter under which the Sun appears at the Earth, viz. $A S = 16'$: radius :: 1 : the length of the shadow $C B = 214.8$ semi-diameters of the Earth: but, when the Sun is at its greatest distance, the length of the shadow $C B$ will be equally to 217 of these semi-diameters. Hence it appears, that, though the height of the shadow is near three times as great as the mean distance of the Moon, yet it falls far short of the distance of Mars, and consequently can eclipse none of the heavenly bodies but the Moon.

To find the height of the Moon's shadow, supposed to be similar to that of the Earth, and consequently proportional to the diameters of the bases, the proportion is, as the diameter of the Earth 100 is to the diameter of the Moon 28, so is the mean altitude of the Earth's shadow 214.8 to the altitude of that of the Moon 60.144 of the Earth's semi-diameters. The shadow of the Moon therefore will just reach the Earth in her mean distance, which it cannot do in her apogee; but in her perigee it will involve a small part of the Earth's surface.

Besides the dark-shadow of the Moon, there is another, called the penumbra; to represent which let S , *fig. 8.* be the Sun, T the Earth, D the Moon, $K C F$ and $A B E$ the two lines touching the opposite limbs of the Sun and Moon; then it is evident that $C F E B$ will be the dark or absolute shadow of the Moon, in which a person on the Earth's surface, between F and E , is wholly deprived of the Sun's light. Again, let $K B G$ and $A C H$ be two other lines touching the sides of the Sun and Moon alternately, and intersecting each other at the point above the Moon; then will $H C B G$, a frustum of the cone $G I H$, be the penumbra above mentioned, in which a spectator on the Earth's surface, between F and H , and E and G , will see part of the Sun, whilst the rest is eclipsed.

To calculate the angle of the cone $H I G$, draw $S B$; then, in the oblique triangle $B I S$, the external angle $B I D$ is equal to both the internal and opposite angles $I B S$ and $I S B$; but $I S B$, the angle under which the semi-diameter appears at the Sun, being insensibly small, the angle $B I D$ will be equal to $I B S$ or $K B S$, equal to the apparent semi-diameter of the Sun. Therefore the part of the penumbral cone $C I B$ is equal and similar to the dark shadow of the Moon.

Next, to find how much of the Earth's surface can be at any time involved in the Moon's dark shadow, or the quantity of the arch $E F$, *fig. 2.*
let

Let us suppose the Sun to be in apogee, and the Moon in perigee; and, in this case, the height of the Moon's shadow will be about 61 semi-diameters, and the distance of the Moon about 56; that is, $CK=61$, $DT=56$, and $TE=1$. In this case also, the half angle of the shadow $TKE=15' 50''$, as being least of all. Then the proportion is: as 1, or the side TE , to the side of $TK=5$; so is the sine of the semi-angle $TKE=15' 50''$ to the sine of the angle $TEK=1^{\circ} 19' 10''$. Wherefore $TEK + TKE = ATE = AE = 1^{\circ} 35'$; the double of which FE is $3^{\circ} 10' = 190''$, or 220 miles, the diameter of the dark shadow on the surface of the Earth when greatest.

After a like manner you may find the diameter of the penumbral shadow at the Earth, $GEFH$, *fig. 8*, when greatest of all, that is, when the Earth is in perihelio, and the Moon in apogee; for then will the Sun's apparent diameter be equal to $16' 23'' = TIG$, the greatest semi-angle of the cone; and thence we shall find $ID=52\frac{1}{2}$ semi-diameters of the earth. In this case also, the distance of the Moon from the Earth is $DT=64$ semi-diameters. Therefore as $TG=1$ to $TI=122\frac{1}{2}$, so is the sine of the angle $TIG=16' 23''$ to the sine of the angle $IGN=35^{\circ} 42'$. But $IGN = TIG + ITG$, and therefore $ITG = IGN - TIG = 35^{\circ} 25'$; the double of which $70^{\circ} 50' = GEFH = 4900$ English miles nearly, for the diameter of the penumbral shadow when greatest.

From the principles of optics it is evident, that, if the plane of the Moon's orbit coincided with that of the earth's orbit, there would necessarily be an eclipse of the Sun every new Moon: thus, if S in *fig. 7*, be supposed to represent the Sun, B the Moon, and T the Earth, since the apparent magnitude or disk of the Sun is nearly the same with that of the Moon, it must necessarily be hid or eclipsed as often as the new Moon came between the Earth and the Sun. But if, as is really the case, the Moon's orbit be not in the plane of the ecliptic, but inclined thereto under a certain angle, there may be a new Moon, and yet no eclipse of the Sun. To illustrate this, let $AB C D E$ be a circle in the plane of the ecliptic, described at the distance of the Moon's orbit $F G H$, intersecting the same in the points B and D , and making an angle therewith $A B F$, whose measure is the arch $G C$, as being ninety degrees distant from the angular points or nodes B and D . Now it is evident, if the arch $G C$ be somewhat greater than the sum of the apparent semidiameters of the Sun and Moon, then at G , and some distance from G towards B , there may be a new Moon, and yet no eclipse of the Sun; because, in this case, the disk of the Moon G is too much elevated

or depressed above or below the apparent disk or face of the Sun at C, to touch it, much less to hide or eclipse any part thereof. But, at a certain point M in the Moon's orbit, the Moon will have a latitude only equal to the sum of the semidiameters of the Sun and Moon; and, therefore, when the Moon is new in that point, she will appear, to a spectator in the point Z, to touch the Sun only; from whence this point M is called the ecliptic limit, inasmuch as it is impossible there should happen a new Moon, in any part between it and the node B on each side, without eclipsing the Sun less or more: thus, in the figure, may be seen a partial eclipse at K, and a total one in the node itself B, at which point only, total eclipses can happen.

What has hitherto been said regards the phenomena of an eclipse of the Sun, as they appear to a spectator on the Earth's surface, in whose zenith the Moon then is, and where there is no refraction to alter the true latitude of the Moon: but, when the Moon has any latitude, there the process of calculating the appearances of a solar eclipse will be somewhat more complex, on account of the variation of the Moon's latitude and longitude for every different altitude, and consequently for every moment of the eclipse.

The best way of representing a solar eclipse is by a projection of the earth's disk and of the section of the dark and penumbral shadows, as they appear, or would appear, to a spectator at the distance of the Moon in a right line joining the centres of the Sun and the earth. In order to this, we are to find the dimensions of the apparent semi-diameters of the earth, dark shadow, and penumbra, at the distance of the Moon. As to the first, viz. the earth's semi-diameter, it is equal to the Moon's horizontal parallax. That of the dark shadow is thus estimated: let C in *fig. 5.* be the center of the Moon, DB its diameter, DHB its dark shadow, and KAL the penumbral cone. Then let EF be the diameter of the penumbra at the earth, and IG that of the dark shadow, and draw CG and CE; then is the angle $CGB = BHC + GCH$, and so $GCH = BGC - BHC$; that is, the apparent semi-diameter of the dark shadow is equal to the difference between the apparent semi-diameters of the Sun and Moon. And in like manner the angle $ECH = DEC + DAC$; that is, the apparent semi-diameter of the penumbra, at the earth, is equal to the sum of the apparent semi-diameters of the Moon and Sun. Now the semi-diameters of the Sun and Moon, and also the Moon's horizontal parallax, are already calculated for their various distances from the Earth, and for the least, mean, and

and greatest eccentricity of the lunar orbit, in the astronomical tables. Therefore, let A E, *fig. 3*, represent a small portion of the annual orbit, and F H the visible path of the center of the lunar shadows, which will exactly correspond to the position of the Moon's orbit with respect to the ecliptic in the heavens; so that the point of intersection α will be the node, and the angle H α E the angle of inclination of the lunar orbit to the plane of the ecliptic, which is about 5° . Hence, if α P Q S represent the disk of the Earth, according to the orthographic projection, in the several places α , B, C, D, whose semidiameter is made equal to the number of minutes in the Moon's horizontal parallax at the time of the eclipse; and if, in the path of the shadows in the points α , R, N, G, we describe a small circle whose semidiameter is equal to the difference of the semidiameters of the Sun and Moon, that will be the circular section of the Moon's dark shadow at the distance of the Earth: again, if a circle is described on the same center, with a semidiameter equal to the sum of the semidiameters of the Sun and Moon, it will represent the penumbral shadow, expressed by the dotted area. Here then it is evident, that if the Moon, when new, be at the distance α G from the node, the penumbral shadow will not fall near the Earth's disk, and so there cannot possibly happen an eclipse. Again, if the Moon's distance from the node be equal to α N, the penumbral shadow will just touch the disk, and consequently α C is the ecliptic limit, which may be found by the following analogy, viz. as the sine of the angle N α C $\equiv 5^{\circ} 30'$ (the angle of inclination of the lunar orbit to the plane of the ecliptic) is to the radius $\equiv 90^{\circ}$, so is the logarithm of the side N C \equiv T C + N T $\equiv 62' 10'' + 16' 52'' + 16' 23'' \equiv 95' 25''$ to the logarithm of the side α C equal to the ecliptic limit, which is found to be $16^{\circ} 36'$, beyond which distance from the node α there can be no eclipse; and within that distance, if the Moon be new, the shadow will fall on some part of the Earth's disk, as at B; where all those places over which the shadows pass will see the Sun eclipsed, in part only, by the dotted penumbral shadow; but the Sun will be centrally eclipsed in all places over which the center of the shadows pass, and, if the Moon be new in the node, then will the center of the shadows pass over the center of the disk, as represented at α . In this case, if the apparent diameter of the Moon be greater than that of the Sun, the face of the Sun will be wholly eclipsed to all places over which the center of the shadow passes; but, if not, the Sun will only be centrally eclipsed, his circumference appearing in the form of a bright annulus, or luminous ring, the width whereof will be equal to the difference of the diameters of the luminaries. The disk of the Earth, here projected, represents the case of an eclipse on an equinoctial day; A K being the ecliptic,

tic, ÆQ the equator, XY the axis of the ecliptic, PS the axis of the equator, P and S the north and south poles, &c. By this projection the passage of shadows over the Earth's disk may be exhibited for any place of the Sun, or declination of the Moon.

To find the digits eclipsed, add the apparent semidiameters of the luminaries into one sum; from which subtract the Moon's apparent latitude; the remainder are the scruples, or parts of the diameter, eclipsed. Then say, as the semidiameter of the Sun is to the scruples eclipsed, so are 6 digits reduced into scruples, or 360 scruples, to the digits eclipsed.

To determine the duration of a solar eclipse, find the horary motion of the Moon from the Sun, for one hour before the conjunction, and another hour after: then say, as the former horary motion is to the seconds in an hour, so are the scruples of half-duration to the time of immersion; and, as the latter horary motion is to the same seconds, so are the same scruples of half-duration to the time of immersion. Lastly, adding the time of immersion to that emergence, the aggregate is the total duration.

As different authors follow very different hypotheses, with regard to the apparent diameters of the luminaries, and the greatest parallax of latitude, they differ much in assigning the bounds at which solar eclipses happen. Ptolomy makes the utmost bounds of eclipses at $19^{\circ} 25'$ distance from the node; Copernicus, at $19^{\circ} 12'$; Tycho, at $18^{\circ} 25'$; Kepler, at $17^{\circ} 16'$; Ricciolus, at $18^{\circ} 49'$. Though Ptolomy, in other places, judges $16^{\circ} 42'$ minutes distance from the node necessary; Copernicus, $16^{\circ} 25'$; Tycho, $17^{\circ} 9'$; Kepler, $15^{\circ} 55'$; and Ricciolus, $15^{\circ} 58'$. Astronomers have generally assigned 17° as the limit of solar eclipses; but this admits of some variation: for, in apogean eclipses, the solar limit is but $16\frac{1}{2}$ degrees, and in perigean eclipses it is $18\frac{1}{2}^{\circ}$.

The Moon's apparent diameter when largest, exceeds the Sun's when least, only one minute and thirty-eight seconds of a degree; and, in the greatest solar eclipse that can happen at any time and place, the total darkness can continue no longer than whilst the Moon is moving through $1' 38''$ from the Sun in her orbit, which is about three minutes thirteen seconds of an hour; for the motion of the shadow on the Earth's disk is equal to the Moon's motion from the Sun, which, on account of the Earth's revolution on its axis towards the same way, or eastward, is about $30\frac{1}{2}$ minutes of a degree every hour, at a mean rate; but so much of the Moon's orbit is equal to $30\frac{1}{2}^{\circ}$ of a great circle on the Earth, because the circumference

circumference of the Moon's orbit is 60 times that of the Earth; and therefore the Moon's shadow goes $30\frac{1}{2}$ degrees, or 1830 geographical miles, in an hour, or $30\frac{1}{2}$ miles in a minute.

To find the Moon's apparent latitude at the beginning and end of an eclipse, it requires only to subtract, from the argument of the Moon's latitude computed for the time of the apparent conjunction, the scruples of half-duration, together with the motion of the Sun, answering to the time of incidence; the remainder is the argument of latitude, at the beginning of the eclipse. To the same sum add the same scruples, together with the Sun's motion answering to the time of emergence; the aggregate is the argument of latitude, at the end of the eclipse. The argument of the latitude given, the Moon's true latitude is found after the common manner.

To calculate eclipses of the Sun, the following data are requisite: 1. Find the mean new Moon, and thence the true one; together with the place of the luminaries for the apparent time of the true one. 2. For the apparent time of the true new Moon, compute the latitude seen. 3. For the apparent time of the new Moon seen, compute the latitude seen. 4. Thence determine the digits eclipsed. 5. Find the times of the greatest darkness, immersion, and emersion. 6. Thence determine the beginning, and ending, of the eclipse. From the preceding problems it is evident, that all the trouble and fatigue of the calculus arise from the parallaxes of longitude and latitude; without which, the calculation of solar eclipses would be the same with that of lunar ones. But eclipses, both of the Sun and Moon, might be calculated with much more ease and expedition by the help of a book of tables, published for that purpose by Mr. Ferguson, to which I beg leave to refer the reader, to save him the trouble of such calculations.

TO PROJECT ECLIPSES OF THE MOON.

These being occasioned by the immersion of the Moon into the Earth's shadow, all that we have to do, in order to delineate a lunar eclipse, is to calculate the apparent semidiameter of the Earth's shadow at the Moon. Thus, let A B, *fig. 6*, represent the Earth, T its center, A E B its conical shadow, D C the diameter of a section thereof at the Moon; and, drawing D T, we have the outward angle $A D T = D T E + D E T$; so that $D T E = A D T - D E T$; that is, the angle D T E, under which the semidiameter of the Earth's shadow appears at the distance of the Moon.

Moon, is equal to the difference between the Moon's horifontal parallax $A D T$, and the femidiameter of the Sun $D E T$. If, therefore, $A E$, *fig.* 4, represent the path of the Earth's shadow at the distance of the Moon near the node ε , and $F H$ a part of the lunar orbit, and the section of the Earth's shadow be delineated at ε , B , C , D ; and the full Moon at ε , I , N , G ; then it is evident there can be no eclipse of the Moon, where the least distance of the centers of the Moon and shadow exceeds the sum of their femidiameters, as at D . But, where this distance is less, the Moon must be eclipsed either in part or wholly, as at B and ε ; in which latter case the Moon passes over the diameter of the shadow. But in a certain position of the shadow, as at C , the least distance of the centers, $N C$, is equal to the sum of the femidiameters; and consequently εC is the ecliptic limit for lunar eclipses: to find which, we have this analogy, as the sine of the angle $N \varepsilon C = 5^\circ$ (the inclination of the Moon's orbit to the plane of the ecliptic) is to the radius, so is the logarithm of the side $N C = 63' 12''$ to the logarithm of the side $\varepsilon C = 12^\circ 5' 5'' =$ the ecliptic limit. Hence, if the Moon be at a less distance from the node ε than $12^\circ 5'$, there will be an eclipse; otherwise none can happen.

If the Earth had no atmosphere, the shadow would be absolutely dark, and the Moon involved in it quite invisible; but, by means of the atmosphere, many of the solar rays are refracted into and mixed with the shadow, whereby the Moon is rendered visible in the midst of it, and of a dusky red colour.

For calculating eclipses of the Moon, the following data are necessary:

1. Her true distance from the node, at the mean conjunction.
2. The true time of the opposition, together with the true place of the Sun and Moon, reduced to the ecliptic.
3. The Moon's true latitude, at the time of the true conjunction, and the distance of the luminaries from the Earth: also their horifontal parallaxes, and apparent femidiameters.
4. The true horary motions of the Moon and Sun, and the apparent femidiameter of the Earth's shadow. With these data it is easy to find the duration, beginning, middle, and quantity, of eclipses.

The number of eclipses, of both luminaries, in any year, cannot be less than two nor more than seven; the most usual number is four, and it is rare to have more than six. The reason is obvious; because the Sun passes by both the nodes but once a year, unless he passes by one of them in the beginning of the year; in which case he will pass by the same

same again a little before the year be finished; because the nodes move backwards $19\frac{1}{2}$ deg. every year, and therefore the Sun will come to either of them 173 days after the other. And, if either node is within 17° of the Sun at the time of the new Moon, the Sun will be eclipsed; and at the subsequent opposition, the Moon will be eclipsed in the other node, and come round to the next conjunction before the former node is 17° beyond the Sun, and eclipse him again. When three eclipses happen about either node, the like number generally happen about the opposite; as the Sun comes to it 173 days afterwards, and six lunations contain only four days more. Thus there may be two eclipses of the Sun, and one of the Moon, about each of the nodes. But, if the Moon changes in either of the nodes, she cannot be near enough the other node at the next full to be eclipsed; and in six lunar months afterwards she will change near the other node; in which case there can be only two eclipses in a year, both of the Sun.

In two hundred and twenty-three mean lunations, after the Sun, Moon, and nodes, have been once in a line of conjunction, they return so nearly to the same state again, as that the same node, which was in conjunction with the Sun and Moon at the beginning of the first of these lunations, will be within twenty-eight minutes twelve seconds of a degree of a line of conjunction with the Sun and Moon again, when the last of these lunations is completed. And therefore, in that time, there will be a regular succession or return of the same eclipses for many ages.—In this period (which was first discovered by the Chaldeans) there are eighteen Julian years eleven days seven hours forty-three minutes twenty seconds, when the last day of February in leap-years is four times included: but, when it is five times included, the period consists of only eighteen years ten days seven hours forty-three minutes twenty seconds; consequently, if to the mean time of an eclipse, either of the Sun or Moon, you add eighteen Julian years eleven days seven hours forty-three minutes twenty seconds, when the last day of February in leap-years comes in four times, or a day less when it comes in five times, you will have the mean time of the return of the same eclipse.

But the falling back of the line of conjunctions or oppositions of the Sun and Moon twenty-eight minutes twelve seconds with respect to the line of the nodes in every period, will wear it out in process of time; and after that it will not return again in less than twelve thousand four hundred and ninety-two years. These eclipses of the Sun which happen about the ascending node, and begin to come in at the North Pole of the Earth, will go a little southerly at each return, till they go quite off the Earth at the South Pole; and those which happen about the descending

node, and begin to come in at the South Pole of the Earth, will go a little northerly at each return, till at last they quite leave the Earth at the North Pole.

To exemplify this matter, it may not here be amiss to examine some of the most remarkable circumstances of the returns of an eclipse mentioned in Mr. Smith's ingenious Dissertation, which happened July 14, 1748, about noon. This eclipse, after traversing the voids of space from the Creation, at last began to enter the *Terra Australis Incognita* about eighty years after the Conquest, which was the last of King Stephen's reign; every Chaldean period, namely, eighteen years eleven days seven hours forty-three minutes twenty seconds, as above-mentioned, it has constantly crept more northerly, but was still invisible in Britain before the year 1622; when, on the 30th of April, it began to touch the south parts of England about two in the afternoon; its central appearance rising in the American South Seas, and traversing Peru and the Amazons country, through the Atlantic ocean into Africa, and setting in the Ethiopian continent, not far from the beginning of the Red Sea.

Its next visible period was after three Chaldean revolutions, in 1676, on the first of June, rising central in the Atlantic ocean, passing us about nine in the morning, with four digits eclipsed on the under limb; and setting in the gulph of Cochinchina in the East Indies.

It being now near the Solstice, this eclipse was visible the very next return in 1694, in the evening; and in two periods more, which was in 1712, on the 4th of July, was seen above half eclipsed just after Sun-rise, and observed both at Wirtemberg in Germany and Pekin in China, soon after which it went off. Eighteen years more afforded us this eclipse again, which happened the 14th of July, 1748. The next visible return happened on the 25th of July, 1762, in the evening, about four digits eclipsed; and, after two periods more, it will be visible again, on the 16th of August, 1802, early in the morning, about five digits, the center coming from the north frozen continent, by the capes of Norway, through Tartary, China, and Japan, to the Ladrone Islands, where it goes off.

Again, in 1820, August 26, betwixt one and two there will be another return of this eclipse at London, about 10 digits; but, happening so near the Equinox, the center will leave every part of Britain to the West, enter Germany at Embden, passing by Venice, Naples, and Grand Cairo, and set in the gulph of Bassora near that city. It will be no more visible till 1874, when five digits will be obscured (the center being now about to leave the Earth) on September 28. In 1892, the Sun will go down

eclipsed

eclipsed at London; and again, in 1928, the passage of the center will be in the *expansum*, though there will be two digits eclipsed at London, October the 31st of that year; and about the year 2090 the whole penumbra will be worn off; whence no more returns of this eclipse can happen till after a revolution of ten thousand years.

From these remarks on the entire revolution of this eclipse, we may gather, that a thousand years, more or less, (for there are some irregularities that may protract or lengthen this period 100 years,) complete the whole terrestrial phenomena of any single eclipse: and since twenty periods of fifty-four years each, and about thirty-three days, comprehend the entire extent of their revolution, it is evident that the times of the returns will pass through a circuit of one year and ten months, every Chaldean period being ten or eleven days later, and of the equable appearances about thirty-two or thirty-three days. Thus, though this eclipse happens about the middle of July, no other subsequent eclipse of this period will return to the middle of the same month again, but wear constantly each period ten or eleven days forward, and at last appear in winter, but then it begins to cease from affecting us.

Another conclusion from this revolution may be drawn, that there will seldom be any more than two great eclipses of the Sun in the interval of this period, and these follow sometimes next return, and often at greater distances. That of 1715 returned again in 1733 very great; but this present eclipse will not be great till the arrival of 1820, which is a revolution of four Chaldean periods: so that the regulations of their circuits must undergo new computations to assign them exactly.

Nor do all eclipses come in at the South Pole; that depends altogether on the position of the lunar nodes, which will bring in as many from the *expansum* one way as the other: and such eclipses will wear more southerly by degrees, contrary to what happens in the present case.

The eclipse, for example, of 1736, in September, had its center in the *expansum*, and set about the middle of its obscurity in Britain; it will wear in at the North Pole, and in the year 2600, or thereabouts, go off in the *expansum* on the south side of the Earth.

The eclipses therefore which happened about the creation are little more than half way yet of their ethereal circuit; and will be 4000 years before they enter the Earth any more. This grand revolution seems to have been entirely unknown to the ancients.

It is particularly to be noted, that eclipses which have happened many centuries ago will not be found by our present tables to agree exactly with ancient observations, by reason of the great Anomalies in the lunar motions ; which appears an incontestible demonstration of the non-*eternity* of the universe. For it seems confirmed by undeniable proofs, that the Moon now finishes her period in less time than formerly, and will continue by the centripetal law to approach nearer and nearer the Earth, and to go sooner and sooner round it : nor will the centrifugal power be sufficient to compensate the different gravitations of such an assemblage of bodies as constitute the solar system, which would come to ruin of itself, without some new regulation and adjustment of their original motions. There are two ancient eclipses of the Moon, recorded by Ptolemy from Hipparchus, which afford an undeniable proof of the Moon's acceleration. The first of these was observed at Babylon, Dec. 22, the year before Christ 383 : when the Moon began to be eclipsed about half an hour before the Sun rose, and the eclipse was not over before the Moon set : but, by most of our Astronomical Tables, the Moon was set at Babylon half an hour before the eclipse began ; in which case, there could have been no possibility of observing it. The second eclipse was observed at Alexandria, Sept. 22, the year before Christ 201 ; where the Moon rose so much eclipsed, that the eclipse must have begun about half an hour before she rose : whereas, by most of our Tables, the beginning of this eclipse was not till about ten minutes after the Moon rose at Alexandria. Had these eclipses begun and ended while the Sun was below the horizon, we might have imagined, that, as the ancients had no certain way of measuring time, they might have been so far mistaken in the hours that we could not have laid any stress on their accounts. But, as in the first eclipse the Moon was set, and consequently the Sun risen, before it was over ; and in the second eclipse the Sun was set and the Moon not risen till some time after it began : these are such circumstances as the observers could not possibly be mistaken in. Mr. Struyk, in his catalogue, notwithstanding the express words of Ptolemy, puts down these two eclipses as observed at Athens ; where they might have been seen as above without any acceleration of the Moon's motion : Athens being twenty deg. West of Babylon, and seven deg. West of Alexandria. We are credibly informed, from the testimony of the ancients, that there was a total eclipse of the Sun predicted by Thales to happen in the fourth year of the 48th † Olympiad, either at Sardis or Mi-

† Each Olympiad began at the time of full Moon next after the Summer Solstice, and lasted four years, which were of unequal lengths, because the time of full Moon differs eleven days every year : so that they might sometimes begin on the next day after the Solstice, and at other times not till four weeks after it. The first Olympiad began in the year of the Julian period 3938, which was 776 years before the first year of Christ, or 775 before the year of his birth ; and the last Olympiad, which was the 293d, began A. D. 393. At the expiration of each Olympiad, the Olympic Games were celebrated in the Elean fields, near the river Alpheus in the Peloponnesus (now Morea), in honour of Jupiter Olympus. See Strachius's Brev. Chron. p. 247—251.

Letus in Asia, where *Thales* then resided. That year corresponds to the 585th year before Christ; when accordingly there happened a very signal eclipse of the Sun, on the 28th of May, answering to the present 10th of that month, central though North America, the south parts of France, Italy, &c. as far as Athens, or the isles in the *Ægean* Sea; which is the farthest than even the *Caroline* tables carry it; and consequently make it invisible to any part of Asia, in the total character; though I have good reasons to believe that it extended to Babylon, and went down central over that city. We are not however to imagine, that it was set before it passed Sardis and the Asiatic towns, where the predictor lived; because an invisible eclipse could have been of no service to demonstrate his ability in astronomical sciences to his countrymen, as it could give no proof of its reality.

The reader may probably find it difficult to understand the reason why Mr. Smith should reckon this eclipse to have been in the 4th year of the 48th Olympiad, as it was only in the end of the third year: and also why the 28th of May, in the 585th year before Christ, should answer to the present 10th of that month. But we hope the following explanation will remove these difficulties. The month of May (when the Sun was eclipsed) in the 585th year before the first year of Christ, which was a leap-year, fell in the latter end of third year of the 48th Olympiad; and the fourth year of that Olympiad began at the summer solstice following; but perhaps Mr. Smith begins the years of the Olympiad from January, in order to make them correspond more readily with Julian Years; and so reckons the month of May, when the eclipse happened, to be in the fourth year of that Olympiad. The place or longitude of the Sun at that time was 8 29 degrees 43 minutes 17 seconds, to which same place the Sun returned (after 2300 years, viz.) A. D. 1716, on May 9^d 5^h 6^m after noon: so that, with respect to the Sun's place, the 9th of May, 1716, answers to the 28th of May in the 585th year before the first year of Christ; that is, the Sun had the same longitude on those days.

For a farther illustration. *Thucydides* relates, that a solar eclipse happened on a Summer's day in the afternoon, in the first year of the Peloponnesian war, so great, that the Stars appeared. Rhodius was victor in the Olympic games the fourth year of the said war, being also the fourth of the 87th Olympiad, on the 428th year before Christ. So that the eclipse must have happened in the 431st year before Christ; and by computation it appears, that on the 3d of August there was a signal eclipse which would have passed over Athens, central about six in the evening, but which our present tables bring no farther than the ancient Syrtes on the African coast, above 400 miles from Athens; which, suffering in that

case but 9 digits, could by no means exhibit the remarkable darkness recited by this historian ; the center therefore seems to have passed Athens about six in the evening, and probably might go down about Jerusalem, or near it, contrary to the construction of the present tables. I have only mentioned these things by way of caution to the present Astronomers in re-computing ancient eclipses ; and refer them to examine the eclipse of Nicias, so fatal to the Athenian fleet ; that which overthrew the Macedonian army, &c.

A longer period than the above-mentioned, for comparing and examining eclipses which happened at long intervals of time, is 557 years 21 days 18 hours 30 minutes 11 seconds, in which time there are 6890 mean lunations : and the Sun and node meet again so nearly as to be but 11 seconds distant : but then it is not the same eclipse that returns, as in the shorter period above-mentioned.

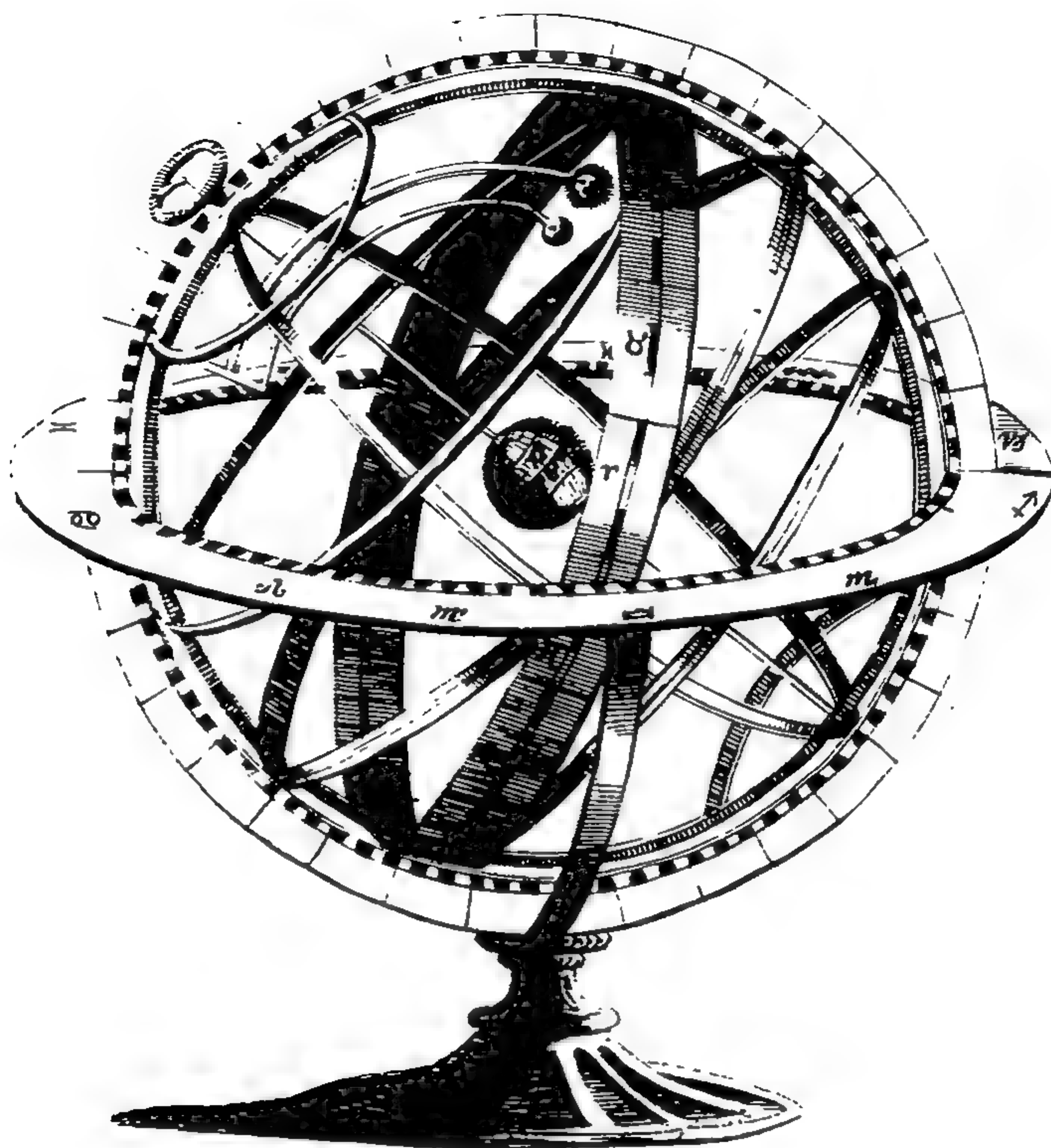
The following are the *visible* Eclipses, which will happen from this time to the end of the present century.

Eclipse of the Sun,	Sept. 16, 1792,	at 11 in the morning.	Partial.
Eclipse of the Moon,	Feb. 25, 1793,	at 10 at night.	Partial.
Eclipse of the Sun,	Sept. 5, 1793,	at 3 in the afternoon.	Partial.
Eclipse of the Sun,	Jan. 31, 1794,	at 4 in the afternoon.	Partial.
Eclipse of the Moon,	Feb. 14, 1794,	at 11 at night.	Total.
Eclipse of the Sun,	Aug. 25, 1794,	at 5 in the afternoon.	Partial.
Eclipse of the Moon,	Feb. 4, 1795,	at 1 in the morning.	Partial.
Eclipse of the Sun,	July 16, 1795,	at 9 in the morning.	Partial.
Eclipse of the Moon,	July 31, 1795,	at 8 at night.	Partial.
Eclipse of the Sun,	June 25, 1797,	at 8 in the evening.	Partial.
Eclipse of the Moon,	Dec. 4, 1797,	at 6 in the morning.	Partial.
Eclipse of the Moon,	May 27, 1798,	at 7 at night.	Total.
Eclipse of the Moon,	Oct. 2, 1800,	at 11 at night.	Partial.

In Astronomy, eclipses of the Moon are of great use for ascertaining the periods of her motions ; especially such eclipses as are observed to be alike in all circumstances, and have long intervals of time between them. In Geography, the longitudes of places are found by eclipses, as already shewn ; but for this purpose eclipses of the Moon are more useful than those of the Sun, because they are more frequently visible, and the same lunar eclipse is of equal largeness and duration at all places where it is seen. In Chronology, both solar and lunar eclipses serve to determine exactly the time of any past event : for there are so many particulars observable

in

Armillary Sphere



in every eclipse, with respect to its quantity, the places where it is visible (if of the Sun), and the time of the day or night, that it is impossible there can be two solar eclipses in the course of many ages which are alike in all circumstances.

Of the FIGURE and MOTION of the EARTH, the CHANGE of SEASONS, the CAUSE of EARTHQUAKES, &c.

The Earth, among Astronomers, is considered as one of the primary planets; and its figure was accounted by some of the ancients to be like that of an oblong cylinder; by others, of the form of a drum, and by others to be flat. But the moderns have demonstrated it to be nearly spherical, or rather an oblate spheroid, flattened towards the poles.

Before we enter more minutely into these speculations, it will be proper to describe the various circles of the globe, and to explain its several divisions and boundaries, as well imaginary as real, in order to give all my readers a perfect idea of the subject before them. For this purpose I have subjoined a plate of the Armillary Sphere, which is an artificial contrivance, representing the several circles proper to the theory of the mundane world, put together in their natural order, to ease and assist the imagination in conceiving the constitution of the spheres, and the various phenomena of the celestial bodies. For this purpose the Earth is placed in the centre, pierced by a line supposed to be its axis, the upper point of which is fixed in the arctic or north pole, and the lower extremity in the antarctic or south pole; whence the two small circles described near these points are called the arctic and antarctic circles. The outer circle, in which the axis or poles of the world are fixed, represents the meridian, or supposed line over any given place, to which when the Sun comes, it is then mid-day or noon. The broad circle, which crosses the whole, and divides the sphere into two equal parts, is called the horizon; because it divides the heavens and the earth into two equal parts or hemispheres, called the upper and the lower, the one light, and the other dark. It likewise determines the rising and setting of the Sun, Moon, or stars, in any particular latitude; for, when any of these appear just at the eastern part of the horizon, we say, it rises; and, when it does so at the western part, we say, it sets. From hence also the altitude of the Sun and stars is reckoned, which is their height above the horizon. The poles of the horizon are the zenith and the nadir, or the points immediately over our heads, and under our feet, diametrically opposite to each other, in the upper and lower hemispheres. The inner

wide circle represents the zodiac, the middle line of which is the ecliptic; or Sun's way in the zodiac, from which he never departs. It is not so with the Moon and the planets; for, though their constant way is in this circle of the zodiac, yet they continually deviate from its center, or ecliptic line, from north to south, and from south to north; which deviations are called their latitudes, and their extent each way determines the width of the zodiac. The two circles within the zodiac, which intersect each other at right angles, constitute the equinoctial circle, and the equator, or equinoctial line. The points, where these circles intersect each other, divide the quarters of the year. That which passes through the two equinoctial points determines the equinoxes; and that which passes through the poles of the ecliptic determines the solstices. When the Sun is in the first of them, viz. in the spring, March 20th, it is called the vernal equinox; and when in autumn, September 23d, it is called the autumnal equinox; at both which times, it is equal day and night all over the world. So likewise when the Sun is in the other, and at his greatest ascent above the equator, and seems to describe the tropic of Cancer, it is called the Summer solstice, and makes the longest day; and on the contrary, when he is at his greatest descent below the equator, and seems to describe the tropic of Capricorn, it is called the Winter solstice, or shortest day. These tropics are two circles described, one immediately under and next adjoining to the arctic circle; and the other, that next above the antarctic circle. They are distant from the equinoctial twenty-three degrees twenty-nine minutes. That on the north side of the line is called the tropic of Cancer, and the southern tropic has the name of Capricorn, as passing through the beginning of each of those signs.

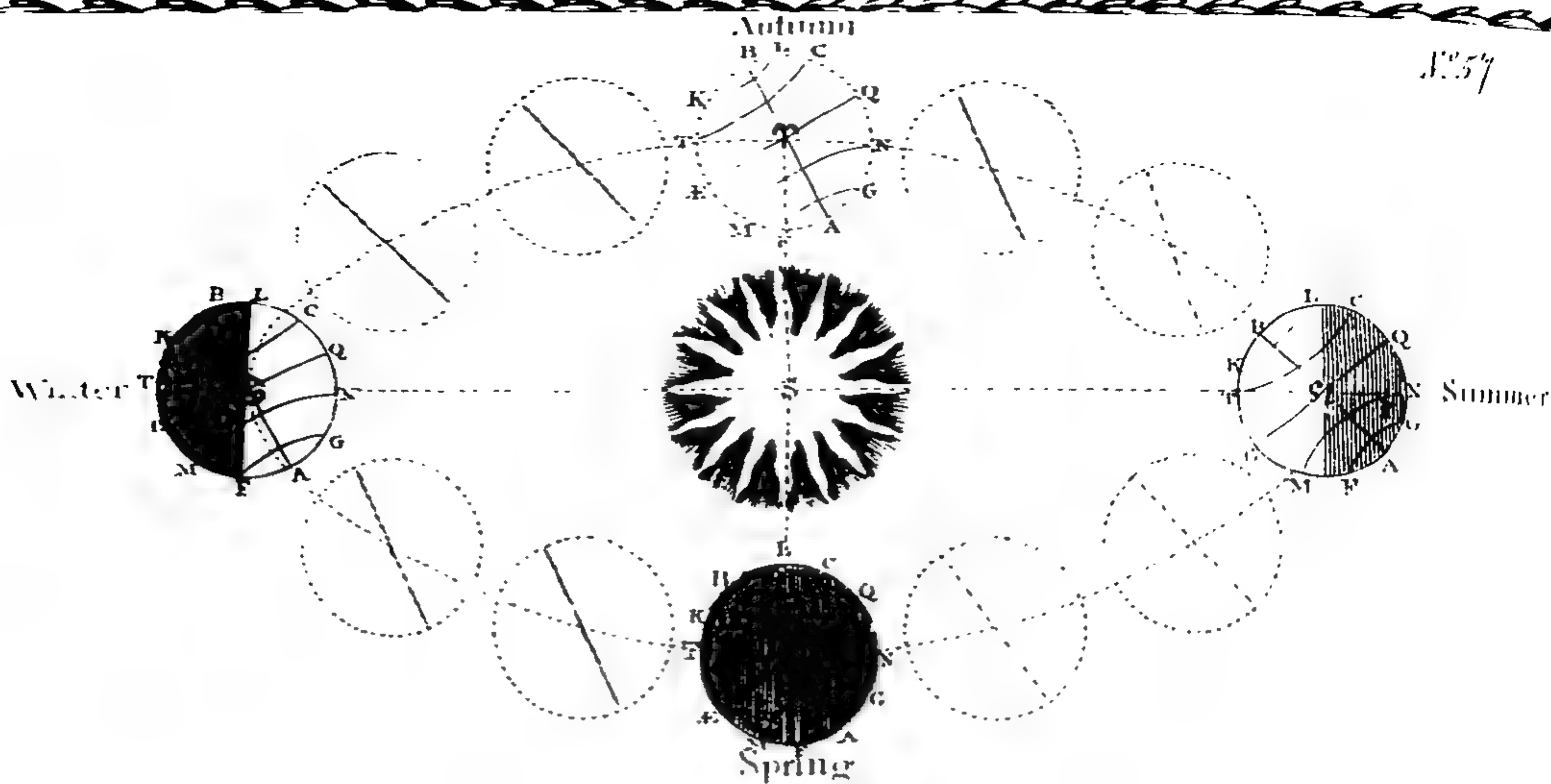
It must here likewise be noted, that the Equator, or Equinoctial Line, passes through the east and west points of the horizon, and at the meridian is raised as much above the horizon as is the complement of the latitude of the place. From this circle, the latitude of places, whether north or south, begin to be reckoned in degrees of the meridian; but the longitude of places are reckoned in degrees of the equator itself. All people living on or under this circle, which is called by geographers and navigators the Line, have their days and nights constantly equal: and this is the reason why, when the Sun enters the two points where the ecliptic intersects the equinoctial, and is exactly upon this line, namely, in the Spring and Autumn, as above-mentioned, the days and nights become of equal duration all over the globe. All the stars directly under this circle have no declination, but always rise due east, and set full west. The hour-circles are drawn at right angles to it, passing through every
fifteenth

fifteenth degree; and the parallels to it are called parallels of declination. Having premised so much by way of explaining the sphere, I shall now proceed with the subject immediately before us.

That the Earth is a spherical body may be demonstrated from the following among other considerations. 1. All the appearances of the heavens, both at land and at sea, are the same as they would be if the Earth were a globe. 2. In eclipses of the Moon which are caused by the shadow of the Earth falling upon the Moon, this shadow is always circular, and a body can be no other than a globe, which in all situations casts a circular shadow. 3. Several navigators have sailed quite round the globe, steering their course directly south and west, till they came to the Magellanic Sea, and from thence to the north and west, till they returned to their port from the east; and all the phenomena which should naturally arise from the Earth's rotundity happened to them. Besides, their method of sailing was also founded upon this hypothesis, which could never have succeeded so happily, if the Earth had been of any other figure. It is true, the surface of the Earth is not an exact geometrical globe, but then the inequalities are so inconsiderable, that the highest mountain bears no greater proportion to the bulk of the Earth than a grain of dust does to a common globe. The figure of the Earth then was reckoned by mathematicians and geographers as perfectly spherical, excepting the small inequalities in its surface of mountains and valleys, till an accident engaged the attention of Sir Isaac Newton and Mr. Huygens, who demonstrate, from the laws of hydrostatics, and the revolution of the Earth about its axis, that its figure was not a true sphere, but an oblate spheroid flattened towards the poles. Monsieur Richer, when at the Island of Cayenne, about five degrees distant from the equator, found that his clock, which at Paris kept true time, now lost two minutes and twenty-eight seconds every day. Now, though heat will lengthen pendulums, and consequently retard their motion, it is certain the heats of Cayenne were not sufficient to solve this phenomenon, which can flow only from a diminution in the pressure of gravity. For, as the Earth revolves about its axis, all its parts will endeavour to recede from the axis of motion, and thereby the equatorial parts where the motion is quickest will tend less towards the center than the rest; their endeavour to fly off from the axis about which they revolve taking off part of their tendency that way; so that these parts will become lighter than such as are nearer the poles. The polar parts, therefore, will press in towards the center, and raise the equatorial parts, till the quantity of matter in the latter is so far increased as to compensate for its lightness, and an equilibrium be restored. On which account, the form which the Earth assumes will be that of an oblate spheroid, whose

shorter axis passes through the poles. By virtue only of the rotation of the Earth about its axis, the weight of bodies at the equator is less than at the poles, in the proportion of 288 to 289. From hence arises, as before observed, a spheroidical form of the Earth, and from that spheroidical form arises another diminution of gravity at the equator, by which, if the Earth were homogeneous throughout, bodies at the equator would lose one pound in 1121, and so, on both accounts taken together, the gravity of bodies at the poles would be to the same at the equator as 230 to 229. From whence, if we suppose the gravity of bodies within the Earth to be directly as their distance from the center, those numbers will also express the relation between its polar and equatorial diameter. This is upon a supposition that the Earth was at first fluid, or a chaos, having its solid and fluid parts confusedly mixed together; but if we suppose it at first partly fluid and partly dry, as it now is, since we find that the land is very nearly of the same figure with the sea, except raised a little to prevent its being overflowed, the Earth must still be of the same form; for otherwise the major part of the water would flow towards the equator, and spread itself like an inundation over all the land in those parts. This theory met with great opposition from Monsieur Cassini, who, having measured the meridian of France, declared (with great reason likewise, if the observations had been correct) that the Earth, instead of being flattened, was lengthened towards the poles, that is, instead of being an oblate it was an oblong spheroid, higher at the poles by about ninety-five miles. So wide a difference, between philosophers of so high rank, determined at length the King of France, at an expence becoming a Monarch, to employ two companies of Mathematicians, the one to measure the length of a degree of the meridian at the equator, and the other the length of a degree at the polar circle, that by comparing them together, and with the length of the degree of France, it might be known whether the Earth were oblong or flat towards the poles.

It is certain, if the lengths of the degrees of latitude decrease as we go from the equator towards the poles, then the axis is greater, and the figure an oblong spheroid: but, on the contrary, if these lengths increase as you remove towards the poles, the axis is less than a diameter at the equator, and consequently the figure an oblate spheroid. This last appears as well by the theory of Sir Isaac Newton, to be the *true* figure, as it does by the respective mensurations of these mathematicians, which were performed with surprising exactness. The figure of the Earth being thus determined, we next proceed to shew the triple means whereby it is agitated and governed in its motion, and whereby night and day, and all the phenomena of the seasons, are produced.



Annual Motion of the Earth

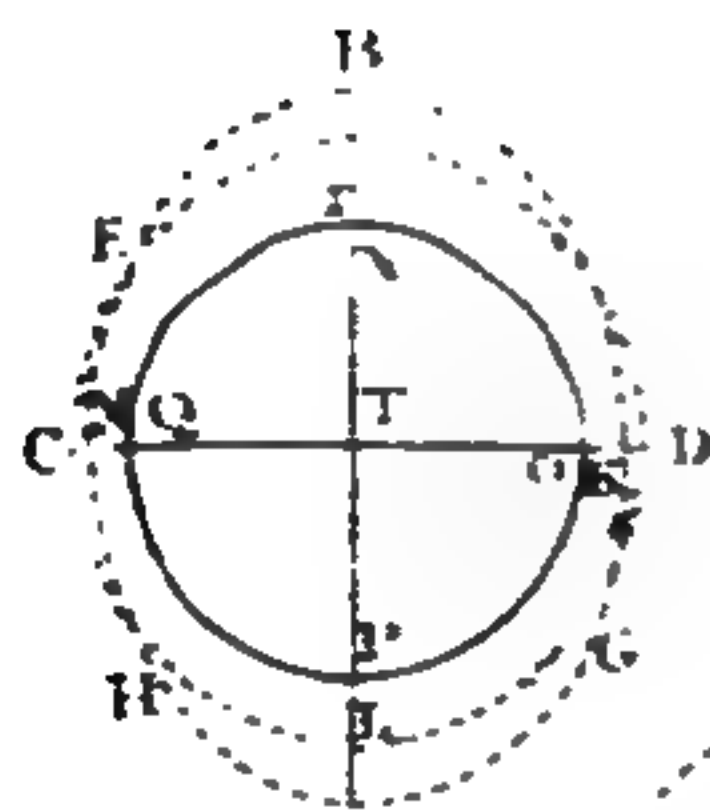


Fig. 2

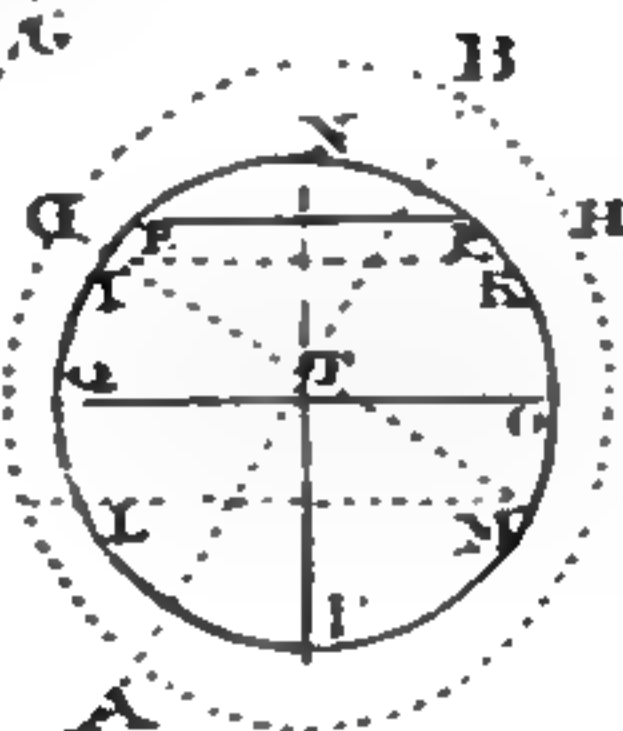


Fig. 3

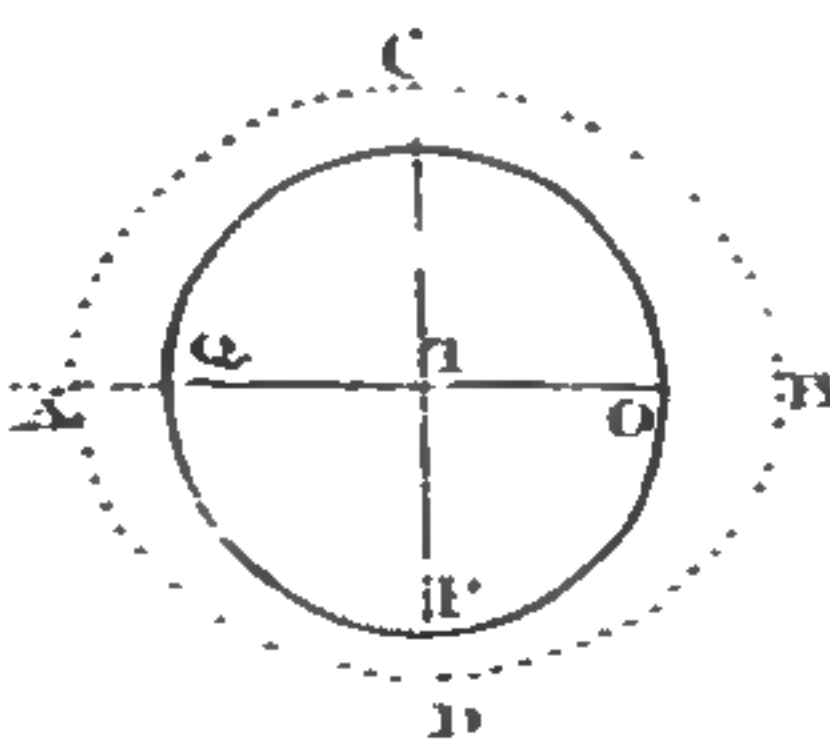


Fig. 4

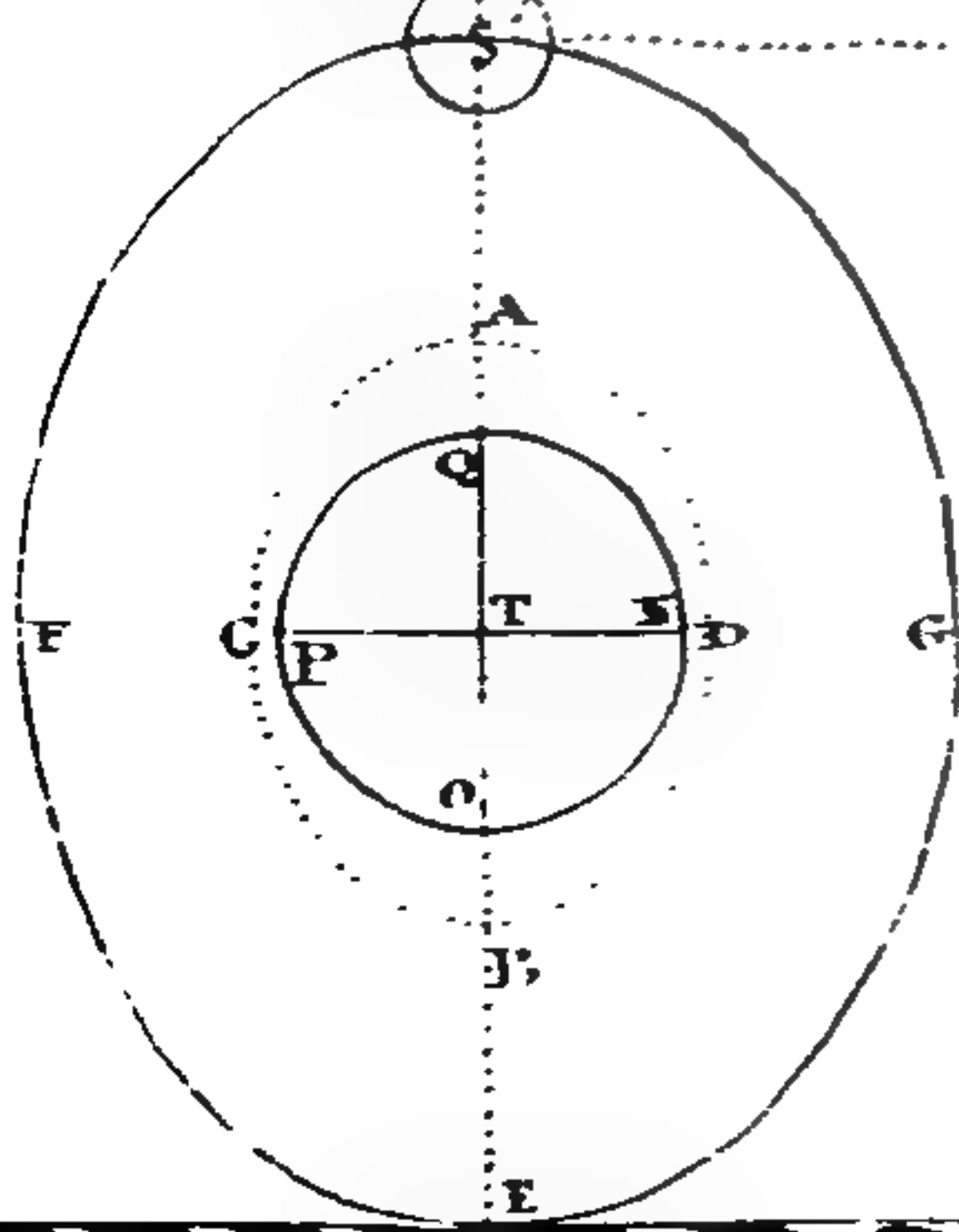


Fig. 5

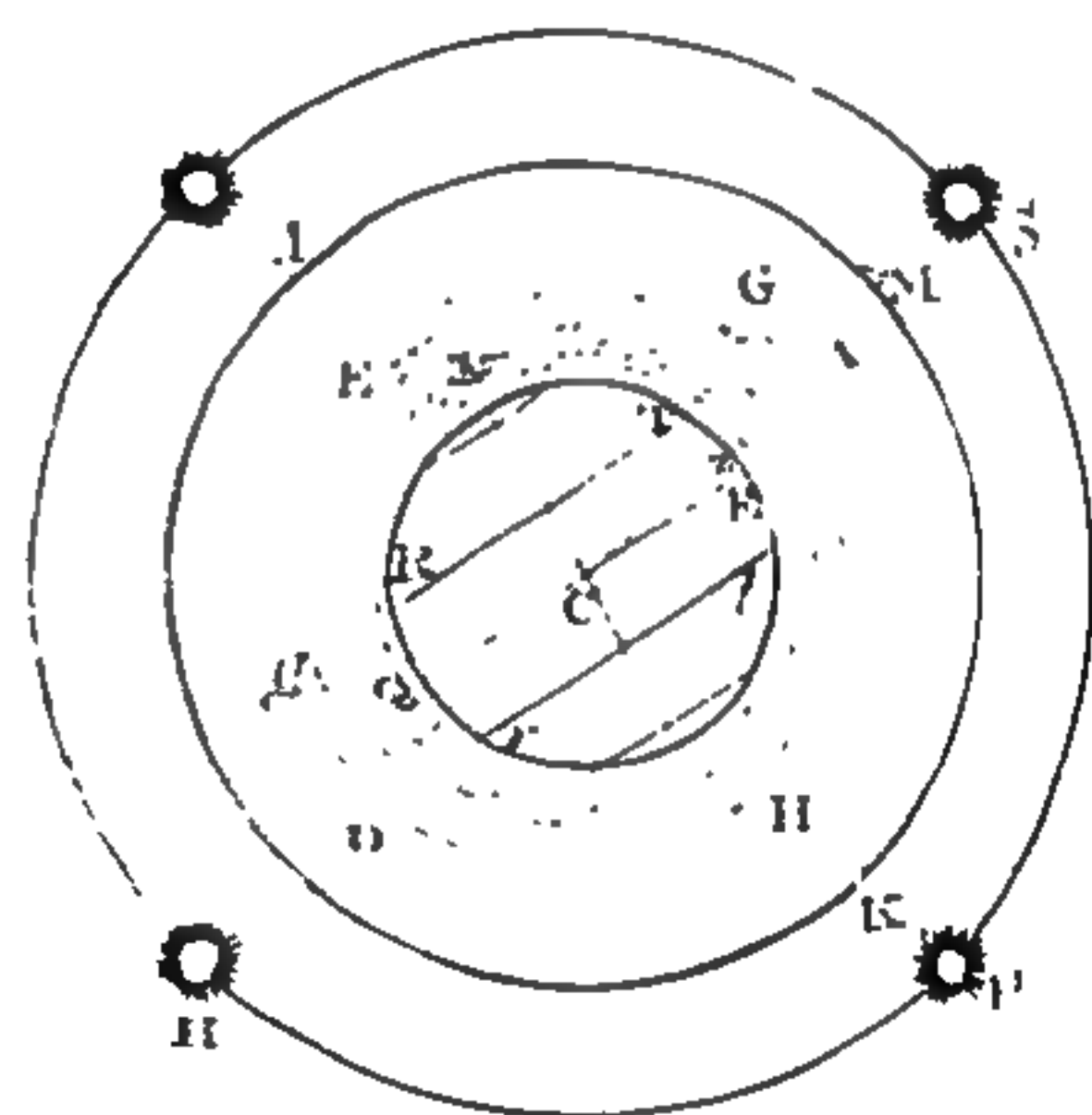
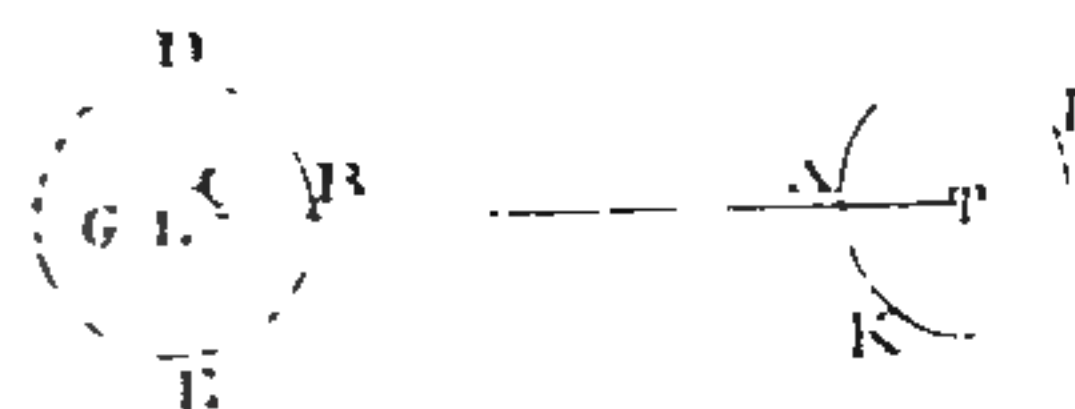


Fig. 6



Tides

In the first place, the earth is found to have a *diurnal* motion round its own axis, from west to east, which it performs in twenty-four hours, and thereby occasions the perpetual succession of days and nights. It is every way agreeable to reason, that the earth should revolve about its own axis, to account for the appearance of such a vast number of stars, which seem to perform their revolutions round the earth in twenty-four hours; for the motion of these stars, were it real, would be incredibly swift, and beyond all imagination, because their distance in respect of us is almost infinite, and the orbit they have to run round so prodigiously great, that they must move at least 100,000 miles in a minute.

The Earth has, secondly, an *annual* motion round the Sun, which it performs every year, whereby it produces the different seasons, and the lengthening and shortening of the days. It being now an established doctrine that the Sun is the centre of our system, and that the Earth moves round it, we shall avoid entering into any disquisitions upon that head, since it is only necessary we should explain the phenomena which arise from the Earth's annual motion, in conjunction with the rotation round its axis; having first premised, that the earth, in its annual motion, hath its axis always in the same direction, or parallel to itself.

Suppose ϖ γ ∞ ∞ (in the annexed figure of the earth's motion) be the earth's orbit, and S the Sun. Through the center of the Sun draw the right line γ S ∞ parallel to the common section of the equator and the ecliptic, which will meet with the ecliptic in two points γ ∞ . And, when the earth seen from the Sun is in either of the points γ or ∞ , a right line S γ or S ∞ , joining the center of the earth and Sun, will coincide with the common section of the equator and ecliptic, and will then be perpendicular to A B, the axis of the earth, or of the equator, because it is in the plane of the equator. But the same line is also perpendicular to the circle which bounds the light and darkness, and therefore the axis of the earth will be in the plane of that circle, which will therefore pass through the poles of the earth, and will cut the equator and all its parallels into equal parts. When the earth, therefore, is in the beginning of ∞ , the Sun will be seen in γ , in the common section of the equator and ecliptic, in which position, the circle of illumination touches both poles: the Sun is vertical to the equator, and the days and nights are equal all the world over; and this is the spring season, or vernal equinox.

The Earth in its annual motion going through ∞ , m , and \dagger , towards ϖ , and the common section of the equator, and the ecliptic remaining always parallel to itself, it will no longer pass through the body of the Sun;

Sun : but, in ϖ , it makes a right angle with the line S P, which joins the centers of the Sun and Earth. And because the line S P is not in the plane of the equator, but in that of the ecliptic, the angle B P S, which the axis of the Earth B A makes with it, will not now be a right angle, but an oblique one of $66\frac{1}{2}$ degrees, which is the same with the inclination of the axis to the plane of the ecliptic. Let the angle S P L be a right angle, and the circle, bounding light and darkness, will pass through the point L, and then the arch B D, or the angle B P L, will be $23\frac{1}{2}$ degrees, that is, equal to the complement of the angle B P S to a right angle. Let the angle B P E be a right angle, and then the line P E will be in the plane of the equator. Therefore, because the arches B E and L T are equal, each of them being quadrants; if the common arch B T be taken away, there will remain T E equal to L B, equal to $23\frac{1}{2}$ degrees. Take E M equal to E T, and through the points M and T describe two parallel circles, T C M N; the one represents the tropic of Cancer, and the other the tropic of Capricorn. And, the Earth being in this situation, the Sun will approach the nearest that it can come to the North Pole : he will shine perpendicularly on the point T, and consequently will be vertical to all the inhabitants under the tropic of Cancer, when he comes to their meridians. It is manifest that the circle which bounds light and darkness reaches beyond the North Pole B to L; but towards the south it falls short to the South Pole A, and reaches no further than F. Through L and F, let two parallels to the equator be described. These will represent the polar circles, and, while the Earth is in P, all that tract of it which is included within the polar circle K L continues in the light, notwithstanding the constant revolution round the axis. On the contrary, those that lie within the antarctic circle remain in continual darkness.

It is also manifest, that all the parallels between the equator and the arctic circle are cut by the circle bounding light and darkness into unequal portions, the largest portions of these circles remaining in the light, and the smallest in darkness; but these parallels which are towards the antarctic circle have their greatest portions in darkness, and their least in light; and the difference of these portions will be greater or less, according as the circles are nearer to the pole or to the equator. Therefore, when the Sun is seen in Cancer ϖ , the inhabitants of the northern hemisphere will have their days at the longest, and their nights at the shortest, and the season of the year will be summer. The contrary of this will happen to the inhabitants of the southern hemisphere.

As the earth moves on from ϖ by $=$, \times , the north pole returns, the diurnal arches begin gradually to decrease, and the nocturnal to increase,
and

and, of consequence, the Sun's rays will fall more and more obliquely, and his heat will proportionably diminish, till the earth comes to γ , when the Sun will appear in α , at which time the days will again be equal to the nights to all the inhabitants of the earth, the circle bounding light and darkness passing, in this position, through the poles. This will be the season called autumn.

The Earth moving on through γ , δ , and π , the Sun will be seen to go in the ecliptic through μ , η , and ζ , and will appear to decline from the equator, towards the south, so that, when the earth is really in π , the Sun will appear in ν . And whereas the axis A.B always retains its parallelism, the earth will have the same position, and aspect, in respect to the Sun, that it had when it was in ν ; but with this difference, that the tract within the polar circle K.L was in continual light while the earth was in ν ; and now, the earth arriving at π , that same tract will be altogether in darkness; but the opposite space within the circle F.G will be in a continual illumination, and at the pole A there will be no night for the space of six months. Here likewise, of the parallels between the equator and the north pole, the illuminated portions are much less than the portions which remain in darkness, the contrary of which happened in the former position; so likewise the Sun at mid-day will appear vertical to all the inhabitants that live in the tropic M.N; so that it will appear to have descended towards the south from the parallel T.C, to the parallel M.N, through the arch C.Q.N, which is forty-seven degrees. This will be the season called winter.

Lastly, as the earth journeys on from π through Ω and π to α , the Sun appears to pass through \equiv and \times to γ , and the northern climes begin to return, and receive more directly the enlivening beams of the Sun, whose meridian height does now each day increase; the days now lengthen, and the tedious nights contract their respective arches; and every thing conspires to advance the delightful season of the spring, with the equality of days and nights, as was shewn when the earth was in α , from which point we began to trace its motion.

The third motion of the earth is that motion by which the poles of the world revolve about the poles of the ecliptic, and occasion what is commonly called the precession of the equinoxes, which is a slow motion of the equinoctial points towards the west, that is, *in antecedentia*, or contrary to the order of the signs. This retrograde motion, by carrying the equinoctial points to meet the Sun in his apparent annual motion, makes him arrive at them sooner every year than he would do if those

points continued immoveable ; and this arch of regression being fifty seconds a year, or one degree in seventy-two years, makes the equinoxes happen twenty minutes in time sooner each year than they would otherwise do. And, though this change be not sensible in a few years, yet these points are found to have a very different situation from what they had two thousand years ago.

By reason of this precession of the equinoctial points, the fixed stars seem to move towards the east, and thereby to have their longitude, which is always reckoned upon the ecliptic, from the vernal equinoctial point, increased. And hence the constellations seem to have deserted the places allotted them by the ancient astronomers ; for instance, the beginning of the sign Aries, which in Hipparchus's time was near the vernal equinoctial point, and gave name to that point of the ecliptic, is now removed near a whole sign, or thirty degrees, eastward ; so that Aries is now where Taurus used to be, Taurus where Gemini used to be, &c. and thus all the constellations of the zodiac have changed their ancient places. But, to avoid confusion, astronomers have thought fit to let the several portions of the ecliptic, where these constellations were at first observed to be, retain their old names ; so that the vernal equinoctial point is still reckoned the first degree of Aries. However these portions of the ecliptic, where the constellations were at first, are called *anæstra*, to distinguish them from the places where they now are, which are termed *stellata*.

The orbit, in which the earth moves round the Sun, common experience proves to be elliptical ; for, were it circular, the Sun's apparent diameter would always be the same ; but we find it is not, for, if it be measured with a micrometer in winter-time, it will be found considerably larger than in summer, and it will be greatest of all when the Sun is in the eighth degree of Capricorn, which shews that is the place of the aphelium, it being then thirty-two minutes forty-seven seconds ; whereas, when the Sun is in the eighth degree of Cancer, his diameter is but thirty-one minutes forty seconds. Hence it is evident that the Sun is really nearer to us in the midst of winter than in the midst of summer ; but this seems a paradox to many, who think the Sun must needs be hottest when it is nearest to us, and that the Sun is apparently more distant from us in December than in June. As to the Sun's being hotter, it is true, it is so to all those places which receive his rays directly or perpendicularly ; but we find his heat abated on account of the obliquity of the rays, and his shorter continuance above the horizon at that time ; and, as to his distance, it is only with respect to the zenith of
the

the place, not the center of the earth ; since it is plain the Sun may approach the centre of the earth, at the same time that it recedes from the zenith of any place ; and, agreeably to the Sun's nearer distance in the winter, we observe his apparent motion is then quicker than in the summer ; for in the eighth degree of Capricorn it is about sixty-one minutes per day, but in the eighth degree of Cancer, his motion is but fifty-seven minutes per day ; accordingly, we find the summer half-year eight days longer than the winter half-year, as appears by the following computation, according to the new style.

The Winter half-year includes

In September, 7 Days.

October	31
November	30
December	31
January	31
February	28
March	20 $\frac{1}{2}$
	<hr/>
	178 $\frac{1}{2}$

The Summer half-year includes

In March 10 Days.

April	30
May	31
June	30
July	31
August	31
September	23
	<hr/>
	186 $\frac{1}{2}$

Winter half-year 178 $\frac{1}{2}$

Difference in the two half-years - - 8 Days.

For, the Sun's attracting force being one part of the cause of the planet's motion, and this force always increasing and decreasing in the inverse ratio of the squares of the distances, it is evident the velocity of the planet will always be greater the nearer it is to the Sun, and *vice versa*. In this manner the earth's motion round the Sun is invariably continued, and its revolution performed in three hundred sixty-five days six hours nine minutes fourteen seconds.

The earth, in its natural and original state, Des Cartes, Burnet, Woodward, and Whiston, suppose to have been perfectly round, smooth, and equable ; and they account for its present rude and irregular form principally from the waters of the great deluge, which inundated and overflowed the whole surface of the globe, to the height of fifteen cubits above the highest hills ; for to that height Moses expressly saith, *Gen. vii. 20.* " the waters prevailed." Some have ventured to deny there were any mountains at all before the flood, though he expressly mentions them as a standard for the height of the water. Others have denied the universality of the deluge, though the words of the text be, " that all the hills over the whole earth were covered." Others have had recourse
to

to the shifting of the earth's center of gravity, and therefore, will have all parts drowned successively ; and our famous theorist, Dr. Burnet, fancies an earth made on purpose to be drowned at that time, which, being in form of an orbicular crust on the face of the sea, as we now call it (for he says there was none before the deluge), fell down into the water and so drowned its inhabitants.

But the Holy Scriptures tell us, that the waters of the deluge came from two funds, " the great deep below," and the " rains above." Again, when we look to the internal parts of the earth, even to the greatest depth men have ever reached, we find that the body of the terrestrial globe is composed of strata, or layers, lying over one another, which appear to be sediments of a flood : besides, in the bodies of these strata, though never so solid, nay, even inclosed within the solidity of the firmest flints, marble, stone, &c. we find a prodigious variety of the exuviae, or remains of fishes, such as their shells, teeth, &c. as well marine ones, as those which live in lakes and rivers ; and from a due observation of these, and repeated considerations upon them, it was, that the learned Dr. Woodward founded what he delivers upon this subject, which therefore is not so much a theory of the earth, as necessary deductions, and unavoidable consequences, drawn from the matters of fact, as they are laid down in the second part of his natural history of the earth. 1. That these marine bodies, and the other spoils of fresh water fishes, were borne forth out of the sea by the universal deluge, and on return of the water back again from off the earth they were left behind on land. 2. That, during the time of the deluge, all the stone and marble of the antideluvian earth, all the metals in it, all the mineral concretions, and in a word all fossils whatever, that had before attained any solidity, were totally dissolved ; their constituent corpuscles disjoined, and their cohesion perfectly ceased ; and that the said corpuscles, together with the corpuscles of those which were not before solid, such as sand, earth, and the like ; as also, all animal bodies, teeth, shells, vegetables, in short, all bodies whatever, that were either upon the earth, or that constituted the mass, if not quite down to the abyss, yet to the greatest depths we ever dig, were assumed up promiscuously into the water, and sustained therein ; so that the water and these bodies made up one common mass. 3. That, at length, all the mass that was thus borne up in the water was again precipitated, and subsided toward the bottom, and that this subsidence happened generally according to the laws of gravity. That the matter subsiding thus formed the strata of stone, earth, marble, coal, &c. of which strata the terrestrial globe, or at least as much of it as hath been displayed to human view, doth chiefly consist. 4. That the strata of marble, &c. attained their
solidity

solidity as soon as the sand, or other matter, whereof they consist, was arrived at the bottom, and well settled there ; and that all those strata, which are solid at this day, have been so ever since that time. 5. That these strata were originally parallel, plane, and regular, and consequently rendered the surface of the earth even and spherical ; that they were contiguous, and not broken and interrupted as we find them now ; and that the water lay then upon them, constituting a fluid sphere, environing all the globe round. 6. That, after some time, by the force of an agent seated within the earth, those strata were broken on all sides of the globe ; that they were dislocated, and their situation varied ; from whence these elevations and depressions on the surface of the globe, as the mountains, valleys, and other inequalities.

From these observations he concludes, that Noah's deluge was quite universal, covering the whole earth, even the highest mountains quite round the globe ; that, at the time of the deluge, the water of the ocean was first brought out on the earth, and immediately succeeded by that of the abyfs ; that, upon the disruption of the strata, or the elevation of some, and the depression of others, towards the end of the deluge, this mass of water fell back towards the lowest parts of the earth, into lakes, and other cavities, into the channel of the ocean, and through the fissures by which this communicates with the ocean, in the abyfs which it filled, till it came to an equilibrium with the ocean ; that the deluge commenced in the spring season, the waters coming forth upon the earth in the month which we call May ; that the deluge did not happen from an accidental concurrence of natural causes, but that many things then happened which never could possibly happen without the assistance of a supernatural power.

Mr. Whiston, on the contrary, in his new theory of the earth, supposes the deluge began on the 18th of November, in the 2365th year of the Julian period, that is, 2349 years before the Christian æra ; that a comet, descending towards its perihelion in the plane of the ecliptic, passed quite near the globe of the earth, the very same day that the deluge began : he ascribes to the universal deluge all the changes and alterations that have happened in the surface and inside of the globe : he adopts the hypothesis of Dr. Woodward, and indiscriminately makes use of all the observations of this author with regard to the present state of the globe.

The terrestrial globe having once met with the tail of the comet, consisting of a transparent fog, or aqueous atmosphere, it must, in passing through it, appropriate to itself some part of the matter it contained.

All that was found within the sphere of attraction of the globe must have fallen upon the earth, and that in form of rain, since this tail partly consisted of aqueous vapours. This tail being “the cataracts of heaven that were opened,” the rain may be made as plentiful as one pleases, even to occasion an universal deluge, the waters of which would easily cover the highest mountains. However, Mr. Whiston does not attribute the whole deluge to these waters only, for, agreeably to Scripture, he affirms that the earth, upon the approach of the comet, would no doubt feel the force of its attraction; so that the fluid, contained in the great abyfs, would be agitated by so violent a flux and reflux, that the superficial crust of the earth could not resist it, but be broken in several places, and the internal waters diffused over the surface, “and the fountains of the great deep broken up.” Mr. Whiston, to dispose of all this water, supposes, that, as soon as the earth in continuing its course had got some way from the comet, the effects of its attraction, the flux and reflux ceased in the great abyfs, and then the superior waters were violently precipitated through the same passages by which they came out; the great abyfs swallowed up all the superfluous waters, and its cavity was found capable enough to receive, not only the waters which it had already contained, but also all those which the tail of the comet had left behind it; since, during the time of its agitation, and the bursting of its crust, it had enlarged the space by breaking-down on all hands the earth that environed it. It was, in like manner, at this time, that the earth, which till then was spherical, became elliptic, occasioned not only by the effect of the centrifugal force caused by its diurnal revolution, but likewise by the action of the comet: and that, because the earth, in passing through the tail of the comet, was situated in such a manner that it presented its equatorial parts to this body; and because the force of the comet’s attraction, concurring with this centrifugal force of the earth, took away those parts of the equator with so much the more facility as the crust was broken and disjoined in a vast many places; and because the action of the flux and reflux of the abyfs made a more violent impresson upon the parts under the equator than any where else.

Dr. Halley resolves the deluge into the shock of a comet, or some other such transient body: the great agitation that must have been occasioned by it in the sea, he observes, would be sufficient to account for all those strange appearances of heaping vast quantities of earth, and high cliffs, upon the beds of shells, which once were the bottom of the sea, and raising up mountains where none were before: such a shock as this, impelling the solid parts, would occasion the waters, and all fluid substances that were unconfined, as the sea is, to run violently with an
 impetus

impetus toward that part of the globe where the blow was received, and that with force sufficient to take with it the very bottom of the ocean, and would carry it upon land. There are various other systems of the universal deluge, several of which may be seen in Monsieur Buffon's *Natural History*, tom. i.

Monsieur de Buffon, arguing from the spheroidical figure of the earth, and the laws of hydrostatics, supposes that the earth, as well as the other planets, are parts struck off from the body of the Sun by the collision of comets; and consequently, when the earth assumed its form, it was in a state of liquefaction by fire. Of this, says he, we shall be the more easily convinced, when we consider the nature of the matter contained in the body of the earth, the greatest part of which, as sand and clays, are vitrified or vitrifiable substances; and, on the other hand, when we reflect upon the impossibility of the earth's being ever in a state of fluidity produced by water, since there is infinitely more land than water; and, besides, water has not the power of dissolving sand, stones, and other substances of which the earth is composed. How far the inequalities in the face of the earth, the beds of rivers, lakes, &c. and the various strata in its internal parts, serve to confirm this hypothesis, may be seen in *Histoire Naturelle*, &c. tom. i. by M. de Buffon.

The arguments of different philosophers and historians, relative to the deluge, and theory of the earth, have founded matter of enquiry to naturalists, how far the same causes, which must have produced not only the mixtures, but the cavities and fissures, in the earth, have been the inlet and cause likewise of earthquakes and volcanos. Earthquakes consist of a violent agitation or trembling of the earth, generally attended with a terrible noise like thunder, and sometimes with an eruption of fire, water, wind, &c. Volcanos are hollow subterraneous combustible mountains, which vomit forth fire, flame, ashes, cinders, &c. Earthquakes and volcanos are both accounted for upon the same principles, and may be thus explained:—Those countries which are hollow and subterraneous, and which naturally yield great store of sulphur and nitre, or where sulphur is sublimed from the pyrites, are by far the most injured and incommoded by earthquakes; for, where there are such mines, they must send up exhalations, which, meeting with subterraneous caverns, must stick to the arches of them, as soot does to the sides of our chimneys; where they mix themselves with the nitre or saltpetre which comes out of these arches, in like manner as we see it come out of the inside of the arch of a bridge, and so makes a kind of crust which will very easily take fire; there are several ways by which this crust may
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take fire, viz. by the inflammable breath of the pyrites, which is a kind of sulphur that naturally takes fire of itself. 2. By a fermentation of vapours to a degree of heat equal to that of fire and flame. 3. By the falling of some great stone which is undermined by water, and, striking against another, produces some sparks that set fire to the neighbouring combustible matter, which, being a kind of natural gunpowder, at the appulse of the fire goes off with a sudden blast or violent explosion, rumbling in the bowels of the earth, and lifting up the ground above it, so as sometimes to make a miserable havock and devastation, till it gets vent or a discharge. Burning mountains and volcanos are only so many spiracles serving for the discharge of this subterranean fire, when it is thus preternaturally assembled; and, where there happens to be such a structure and conformation of the interior parts of the earth, that the fire may pass freely and without impediment from the caverns therein, it assembles into these spirals, and then readily and easily gets out from time to time without shaking or disturbing the earth; but where a communication is wanting, or the passages are not sufficiently large and open, so that it cannot come at the said spiracles without first forcing and removing all obstacles, it heaves up and shocks the earth, till it hath made its way to the mouth of the vulcano, where it rusheth forth, sometimes in mighty flames, with great velocity, and a terrible bellowing noise. Earthquakes are sometimes confined to a narrow space, which is properly the effect of the re-action of the fire; and they shake the earth just as the explosion of a powder-magazine causes a sensible concussion at the distance of several leagues. Thus a violent eruption of Etna will cause an earthquake over all the island of Sicily; but it will never extend to the distance of three or four hundred leagues. In like manner, when some new vents of fire have been formed in mount Vesuvius, there are felt at the same time earthquakes at Naples, and in the neighbourhood of the vulcano; but these concussions have never shaken the Alps, nor been communicated to France, or other countries remote from Vesuvius. Sometimes they are felt at considerable distances, and shake a long tract of ground without any eruption or vulcano appearing. We have instances of earthquakes which were felt the same time in England, France, Germany, and even in Hungary; and these extend always a great deal more in length than in breadth; they shake a tract of ground with more or less violence, in different places, in proportion as it is remote from the fire; and they are almost always accompanied with a dull noise, like that of a heavy carriage rolling along with great rapidity.

Dr. Woodward gives us another theory of earthquakes. He endeavours to shew, that the subterraneous heat or fire, which is continually

elevating water out of the abyfs to furnish the earth with rain, dew, fountains, and rivers, being flopped in any part of the earth, and fo diverted from its ordinary courfe by fome accidental glut or obftruction in the pores or paffages through which it ufed to afcend to the furface, becomes by fuch means preternaturally afsembled in a greater quantity than ufual into one place, and therefore caufeth a great rarefaction and intumefcence of the water of the abyfs, putting it into great commotions and diforders, and at the fame time making the like effort on the earth; which, being expanded upon the face of the abyfs, occasions the agitation and concuffion which we call an earthquake.

But Dr. Stukeley has introduced a new notion in the theory of earthquakes, and has endeavoured to prove that they are caufed by electricity. He urges a variety of objections againft the foregoing hypothesis, which afcribes earthquakes to fubterraneous winds, fires, vapours, or any thing that occasions an explofion, and thus heaves up the ground. He thinks there is no evidence of the cavernous ftructure of the earth, which this hypothesis requires; but that, on the contrary, there is reason to believe that it is in a great meafure folid. Earthquakes have alfo frequently happened without any eruption of fire, vapour, fmoke, or fmell, which he thinks is utterly inconfiftent with the fupposition of their being occafioned by any fubterraneous vapours; efpecially in cafes where the fhock is of confiderable extent; befides, this is a caufe altogether inadequate to fuch an effect; for a fubterraneous power, capable of moving a furface of earth only thirty miles in diameter, muft be lodged at leaft fifteen or twenty miles below the furface, and move an inverted cone of folid earth, whole bafe is thirty miles in diameter, and its axis fifteen or twenty miles, which he judges to be abfolutely impoffible; how much more inconceivable, then, that any fuch power could produce the earthquake of 1755, which was felt in various parts of Europe and Africa, and the Atlantic Ocean; or that of Asia Minor, A. D. 17, by which thirteen great cities were deftroyed in one night, and which fhook a mafs of earth three hundred miles in diameter, in order to which the moving power, if it had been internal fire or vapour, muft have been lodged two hundred miles below the furface! Farther, in earthquakes the effect is instantaneous; whereas the operation of elastic vapour and the difcharge of it muft be gradual, and require a long fpace of time; and, if they were owing to explofions, they muft alter the furface of the country where they happened, deftroy the fountains and fountains, and change the courfe of its rivers, which is contradicted by hiftory and obfervation. To all which it is added, that the ftrokes which fhips receive during an earthquake muft be occafioned by fomething that could communicate

nicate motion with a much greater velocity than any heaving of the earth under the sea by the elasticity of generated vapours, which would only produce a gradual swell, and not an impulse of the water, resembling a thump against the bottom of a ship or striking against a rock. Dr. Stukeley, finding the common hypothesis insufficient, was led to conclude that earthquakes were proper electrical shocks; and a particular survey of the phenomena, that either precede or attend them, confirmed this opinion: he observed that the weather was usually dry and warm for some time before an earthquake happened, and that the surface of the ground is thus previously disposed for that kind of electrical vibration in which it consists; whilst at the same time, in some places where earthquakes have happened, the internal parts, at a small depth below the surface, are moist and boggy; and thence he infers, that they reach very little below the surface. He adds, that the southern regions are more subject to earthquakes than the northern, on account of the greater warmth and dryness of the earth and air, which are qualities so necessary to electricity. It was also observed, that before the earthquakes at London in 1749, all vegetables were remarkably forward, and electricity is well known to quicken vegetation. They were likewise preceded by frequent and singular appearances of the *aurora borealis* and *australis*, and by a variety of other meteors which indicate an electrical state of the atmosphere. Dr. Stukeley apprehends, that, in this state of the earth and air, nothing more is necessary to produce an earthquake than the approach of a non-electric cloud to any part of the earth, when in an highly electrified state, and the discharge of its contents upon it; and that, as the discharge from an excited tube occasions a commotion in the human body, so the shock, produced by the discharge between the cloud and many miles in compass of solid earth, must be an earthquake, and the snap from the contact be the noise attending it. He supposes, that a large black cloud which suddenly covered the hemisphere a little before the earthquake of 1749 might have occasioned the shock, by the discharge of a shower. The noise, it has been observed, usually precedes the shock; whereas, if the concussion depended upon a subterraneous eruption, it must have been quite the contrary. The flames and sulphureous smells which sometimes attend earthquakes are more easily accounted for, as Dr. Stukeley thinks, from the supposition of their being electrical phenomena than on any other hypothesis. The sudden extensive agitation, both of land and water, occasioned by earthquakes, can only be effected by electricity. The little damage generally done by earthquakes, and the nature of the impulse which they give to ships, already taken notice of, suggest an argument, that they are owing not to any convulsion in the bowels of the earth, but to an uniform vibration

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along its surface, occasioned by an electrical snap; and that they are electrical phenomena, Dr. Stukeley farther infers, from their chiefly affecting the sea-coast, or places near rivers; we may add also, eminences; and finally from the effects which they produce on weak constitutions, such as pains in the back, head-achs, cholics, &c. similar to those occasioned sometimes by electrification. After all, he does not presume to say, how the earth and atmosphere are put into that electrical and vibratory state, which prepares them to give or receive that snap, and shock, which is called an earthquake; but this he thinks as difficult to account for as magnetism, gravitation, muscular motion, and many other secrets in nature. Several circumstances have been remarked by other writers, which confirm the theory that supposes earthquakes to be electrical phenomena. Signior Beccaria, whose name often occurs in the history of electricity, agrees with Dr. Stukeley, in supposing, that earthquakes are electrical phenomena; but he imagines that the electric matter which occasions them is lodged deep in the bowels of the earth; and, if in this situation its equilibrium should by any means be destroyed, so that the best method of restoring it shall be by the fluid's bursting its way into the air, and traversing several miles of the atmosphere to come to the place where it is wanted, it may easily be conceived, that violent concussions may be given to the earth, by the sudden passages of this powerful agent; and that the electric fluid is sometimes collected in the bowels of the earth, he thinks probable from the appearance of *ignes fatui* in mines, which sometimes happens, and is very probably an electrical phenomenon. This ingenious philosopher observes, that, if two pieces of glass, inclosed in a thin piece of metal, be held in the hand, while a large shock is sent through them, a strong concussion or vibration will be felt, which sometimes breaks them to pieces. Mr. Henly, another excellent electrician, has discovered a method of increasing the effect of the explosion upon glass, so as to afford a very natural idea of an earthquake. Between the ends of two wires, laid on a piece of glass, with their extremities pointing to each other, and about an inch distant, through which the discharge is to be made, he places a thick piece of ivory upon the glass, and on the ivory a weight at pleasure, from one-fourth of an ounce to six pounds; the glass is broken by an explosion into innumerable fragments, and some of it is reduced into an impalpable power: the weight is shaken by the explosion and sometimes thrown off from the ivory. In this experiment, if the glass is very thick, so that the force of the explosion is not sufficient to break it, it will be found marked with the most lively prismatic colours. The appearance of an earthquake may be also represented by causing the explosion of a battery to pass over the surface of any substances on which
small

small sticks or cards are placed, which will never fail to be shaken, and often be thrown down, by the explosion ; or, by making a discharge over the surface of water, in which case the report will be much louder than when the discharge is made through the air ; and a hand plunged deep into the water will feel the concussion ; and we may add, that the spark which passes over the surface of the water in this experiment bears a great resemblance to those balls of fire that have sometimes been seen over the surface of the sea or land in the time of an earthquake. Dr. Priestley contrived various methods of exhibiting the phenomena of earthquakes. He made the electric flash to pass over wet boards swimming in water, over either of these separately, or over both at once, on which pillars, &c. were erected ; and thus, whilst the board represented the earth, and the water the sea, the phenomena of both during an earthquake were exhibited at the same time. Dr. Priestley, the ingenious historian of electricity, after having largely recited the observations of Dr. Stukeley and Signior Beccaria, does not absolutely decide which of these two philosophers has advanced the more probable opinion concerning the seat of the electric matter which occasions earthquakes ; but he thinks a more probable general hypothesis than either of them may be formed out of them both. Suppose, says he, the electric matter to be some way or other accumulated on one part of the surface of the earth, and, on account of the driness of the season, not easily to diffuse itself ; it may, as Signior Beccaria supposes, force itself away into the higher regions of the air, forming clouds in its passage out of the vapours which float in the atmosphere, and occasion a sudden shower, which may farther promote the passage of the fluid. The whole surface, thus unloaded, will receive a concussion, like any other conducting substance, on parting with, or receiving, a quantity of the electric fluid ; the rushing noise will likewise sweep over the whole extent of the country ; and, upon this supposition also, the fluid, in its discharge from the country, will naturally follow the course of the rivers, and also take the advantage of any eminences to facilitate its ascent into the higher regions of the air. See farther on this subject, *Phil. Trans.* vol. xli. page 641, &c. Beccaria *Lettre dell'Electricismo*, page 216, 362, &c. or Priestley's *History of Electricity*, Period. x. sect. 12.

How far these arguments and observations are sufficient to explode the former theory of earthquakes, and to solve the various and complicated effects of their destructive operation, must be left to the determination of the attentive reader, after he has maturely contemplated the following authentic narration of some of the most fatal earthquakes that ever excited terror and trepidation in the minds of men.

The earthquake, which happened in Sicily in the year 1692 3, as related by Mr. Hartop, F. Burgos, and Vin. Bonajutus, is one of the most fatal, and exhibits the most lamentable catastrophe of the kind, recorded in history. It extended over the whole island; and even Naples and Malta were affected by the shock. It was of the second kind mentioned by Aristotle and Pliny, viz. a perpendicular pulsation or succession. The motion was so rapid and violent, that no body could stand upon their legs; those who lay on the ground were tossed from side to side as on a rolling billow, and high walls leaped from their foundations many yards distant. The mischief it did is amazing; almost all the buildings in the country were thrown down. Fifty-four cities and towns, besides an incredible number of villages, were either destroyed or greatly damaged. We shall only instance the fate of Catania, one of the most famous, ancient, and flourishing, cities in the kingdom, the residence of several monarchs, and an university. This once famous, now unhappy, Catania, to use the words of F. Burgos, had the greatest share in the tragedy. F. Anton. Serrovita, being on his way thither, and at the distance of a few miles, observed a black cloud, like night, hovering over the city; and there arose from the mouth of Mont Gibello great spires of flame, which spread all around. The sea, all of a sudden, began to roar, and rise in billows; and there was a noise as if all the artillery in the world had been at once discharged. The birds flew about astonished; the cattle in the fields ran crying, &c. His and his companions horses stopped short, trembling; so that they were forced to alight. They were no sooner off, but they were lifted from the ground above two palms; when, casting their eyes towards Catania, he with amazement saw nothing but a thick cloud of dust in the air. This was the scene of their calamity; for of the magnificent Catania there was not the least footstep to be seen. S. Bonajutus assures us, that, of 18,914 inhabitants 18,000 perished therein. The same author, from a computation of the inhabitants, before and after the earthquake, in the several cities and towns, finds that near 60,000 perished out of 254,900.

Jamaica is remarkable for earthquakes. The inhabitants, Dr. Sloane informs us, expect one every year. This author gives us the history of one in 1687; and another horrible one in 1692 is described by several anonymous authors. In two minutes time this shook down and drowned nine tenths of the town of Port Royal. The houses sunk out-right, 30 or 40 fathoms deep. The Earth, opening, swallowed up people; and they rose in other streets, some in the middle of the harbour; and yet many were saved, though there were 2000 people lost, and 1000 acres of land sunk. All the houses were thrown down throughout the island.

One Hopkins had his plantation removed half a mile from its place. Of all wells, from one fathom to six or seven, the water flew out at the top with a vehement motion. While the houses on one side of the street were swallowed up, on the other they were thrown on heaps ; and the sand in the street rose like waves in the sea, lifting up every body that stood on it, and immediately dropping down into pits ; and at the same instant a flood of water, breaking in, rolled them over and over ; some catching hold of beams and rafters, &c. Ships and sloops in the harbour were upset and lost ; the Swan frigate, particularly, was thrown over by the motion of the sea and sinking of the wharf, and was driven over the tops of many houses. The calamity was attended with a hollow rumbling noise like thunder. In less than a minute, three quarters of the houses, and the ground they stood on, with the inhabitants, were all sunk quite under water ; and the little part left behind was no better than a heap of rubbish. The shake was so violent, that it threw people down on their knees or their faces as they were running about for shelter. The ground heaved and swelled like a rolling sea ; and several houses still standing, were shuffled and moved some yards out of their places. A whole street is said to be twice as broad now as before ; and in many places, the earth would crack, and open and shut, quick and fast. Of which openings, two or three hundred might be seen at a time ; in some whereof, the people were swallowed up ; others, the earth closing, were caught by the middle, and pressed to death ; as to others, the heads only appeared. The larger openings swallowed up houses ; and out of some would issue whole rivers of waters, spouting up a great height into the air, and threatening a deluge to that part the earthquake spared. The whole was attended with stench and offensive smells, the noise of falling mountains at a distance, &c. and the sky in a minute's time was turned dull and reddish like a glowing oven. Yet, as great a sufferer as Port Royal was, more houses were left standing therein than on the whole island beside. Scarce a planting-house or sugar-work was left standing in all Jamaica. A great part of them were swallowed up, houses, people, trees, and all at once ; in lieu of which, afterwards appeared great pools of water, which, when dried up, left nothing but sand, without any mark that ever tree or plant had been thereon. About twelve miles from the sea the earth gaped, and spouted out with a prodigious force vast quantities of water into the air ; yet the greatest violences were among the mountains and rocks ; and it is a general opinion, that the nearer the mountains the greater was the shake, and that the cause thereof lay there. Most of the rivers were stopped up for twenty-four hours, by the falling of the mountains, till, swelling up, they made themselves new tracts and channels, tearing up in their passage trees, &c.

After

After the great shake, many of those people who escaped got on-board ships in the harbour, where many continued above two months; the shakes all that time being so violent, and coming so thick, sometimes two or three in an hour, accompanied with frightful noises like a rustling wind, or a hollow rumbling thunder, with brimstone blasts, that they durst not come ashore. The consequence of the earthquake was a general sickness, from the noisome vapours belched forth, which swept away above 3000 persons of those who were left. After the detail of these horrible convulsions, the reader will have but little curiosity left for the phenomena of the earthquake at Lima in 1687, described by Fa. Alvarez de Toledo, wherein above 5000 persons were destroyed; this being of the vibratory kind, so that the bells in the church rang of themselves; or that at Batavia, in 1699, by Witzen; that in the north of England, in 1703, by Mr. Thoresby; those in New England, in 1663 and 1670, by Dr. Matthew; that of Italy in 1742; that of Lima and the port of Calas in Peru, in 1746, which lasted fifteen minutes, and demolished most of the buildings in the city, and destroyed most of the inhabitants, and swallowed up several ships then in the port; that of London, in 1749; those in 1750, felt in many parts of England; that of 1777, felt in the north of England; or that at Lisbon, in 1755, though this deserves a more particular account than many others of much less considerable extent and duration. The three preceding years had been remarkably dry, insomuch that some springs which had been plentifully supplied with water were totally lost; and the predominant winds were east and north-east, accompanied with various, though very small, motions and tremblings of the earth. The spring of the year 1755 was very rainy and wet; the weather on the day preceding the earthquake, which happened on the 1st of November, was clear and uncommonly warm for the season, and had continued clear and rather warmer than usual for several days before. The day of the earthquake broke with a serene sky, the wind continuing at east; but about nine o'clock the Sun began to grow dim; and soon after was heard a rumbling noise, like that of carriages, which increased to such a degree as to equal that of the loudest cannon; upon which the first shock was felt, which was immediately succeeded by a second and a third, the whole duration of which was about eight minutes; about twelve o'clock another shock was felt.

During the first shock, the greatest part of the public edifices and other buildings of the city were thrown down; and not less than sixty thousand of its inhabitants buried in the ruins. The earth opened in fissures in several parts, and several light flames of fire were observed to issue from the sides of the mountains, resembling those of kindled charcoal.

coal. Subterraneous rumblings were also felt, attended with a discharge of great quantities of smoke. The water in the sea rose several times, and in a few minutes made three fluxes and refluxes, rising above the greatest spring-tides no less than fifteen English feet. The shock was so violent fifty leagues off at sea, as greatly to injure the deck of a ship, and to lead the captain to apprehend, that he had mistaken his reckoning and struck on a rock. The shock was also felt about the same time at Oporto, by which the whole city was shaken, several chimneys, stones, and crosses, were thrown down, and some buildings opened at top; and the swelling in the river was so considerable, that two large ships, which were just got over the bar, were driven back into the harbour. The same shock was equally violent at Madrid, Seville, and Cadiz; and in this last place the sea rose in a wave at least sixty feet higher than usual, dashed against the rocks on the west part of the town, and against the walls with such violence as to beat in the breast-work and a great part of the walls, so that several persons were drowned by it. The day when the earthquake happened at Cadiz was as clear and serene as the finest summer-day in England. Many other cities, both in Spain and Portugal, were considerably damaged. The effects of this earthquake, in violently agitating the waters, were perceived in many parts of England, Scotland, and Ireland; and the shock not only reached to Switzerland, Holland, and other parts of Europe, but it was communicated to Africa, and destroyed several cities on the coast of Barbary; and it was also felt about the same time in the island of Madeira, where the water rose full fifteen feet perpendicular above high-water mark.

The last terrible earthquake of which we have any account happened in Sicily and Calabria in the year 1782. It began about six o'clock in the morning of the 5th of February, and the shocks continued to be felt with more or less violence for near two months. The commotions first broke out at Mount Caulone, one of the Apennines, which traverses through all Italy. The undulations were observed to be in every direction; but the vertical ones were the most fatal. The towns and villages in Calabria, that were either totally or partly destroyed by it, are very numerous: among the principal ones are Franc Villa, Batatico, Monteleone, Vallelonga, Francia, Mileto, Soriano, Areta, Rossano, Palina, Cinquefronde, Sinopoli, St Euphemia, Scilla, Reggio, Beva, Messina, Oppido, Bagnara, Cozenza, Catanzara, Maide, Castiglione, &c. The face of the whole country became entirely changed; the courses of many springs and rivers were either totally absorbed, or turned into new directions; and several water-mills were left dry, without the least vestiges of the channels by which they had been driven. A considerable

tract of country was entirely swallowed up by the sea; and that which was before covered with water became dry land. Whole flocks of sheep and herds of cattle were swallowed up as they were grazing; the earth opened and shut, exhibiting chasms of the most horrible depth, vomiting forth sulphureous flame and vapour. Upwards of twenty-six thousand souls were either precipitated into the bowels of the earth, or mangled by the fall of buildings, and buried in the ruins! By this no less fatal than recent example of the phenomena of earthquakes, it should seem that the cause or seat of them lies far below the surface of the earth or depths of the ocean.

Of the T I D E S.

The Tides are two periodical motions of the waters of the sea, called also the flux and reflux, or the ebb and flow. When the Moon is in the first and third quarter, i. e. when she is new and full, the tides are high and swift, and are called *spring-tides*—when she is in the second and last quarter, the tides are lower and slower, and are called *neap-tides*.

In the phenomena of the tides, the sea is observed to flow, for certain hours, from south towards north; in which motion, or flux, which lasts about six hours, the sea gradually swells; so that, entering the mouths of rivers, it drives back the river-waters toward their heads, or springs. After a continual flux of six hours, the sea seems to rest for about a quarter of an hour; after which it begins to ebb, or retire back again from north to south, for six hours more; in which time, the water sinking, the rivers resume their natural course. Then, after a seeming pause of a quarter of an hour, the sea again begins to flow, as before; and thus alternately. Thus does the sea ebb twice a-day, and flow as often; but not in the same hours thereof. The period of a flux and reflux is twelve hours forty-eight minutes, so that the tides return later and later each day, by forty-eight minutes, or three quarters of an hour and three minutes. Now twelve hours forty-eight minutes is a lunar day; i. e. the Moon passes the earth's meridian later and later each day by forty-eight minutes. So that the sea flows as often as the Moon passes the two meridians of the world, namely, that above and that below the horizon; and ebbs as often as she passes the horizon, both the eastern and western points thereof. This farther agreement we likewise observe between the Moon and the sea, that the tides, though constant, are not equal, but are greatest when the Moon is in conjunction or opposition, and least when in quartile, thereto. But those tides are the greatest which happen in the new and full Moon, at the time

of the equinoxes. And these same effects are observable throughout most of the coasts of Europe; only that the tides are so much the less, and happen later, as the coasts are the more northerly.

These phenomena of the tides are admirably accounted for, from the principles of gravitation. All that is requisite to their solution is, that the Earth and Moon, and every particle thereof, mutually gravitate towards each other; the reasonableness of which assumption is every way apparent. Indeed the sagacious Kepler, long ago, conjectured this to be the cause of the tides. "If," says he, "the earth ceased to attract its waters towards itself, all the water in the ocean would rise and flow into the Moon; the sphere of the Moon's attraction extends to our earth, and draws up the water." Thus thought Kepler, in his *Introd. ad Theor. Mart.* This surmise, for it was then no more, is now abundantly verified in the theory first amply deduced by Dr. Halley, from the Newtonian principles. However, we may observe with M. de la Lande, (*Astronomie*, vol. iv. Paris, 1781.) that several of the ancients, and among others, Pliny, Ptolomy, and Macrobius, were acquainted with the influence of the Sun and Moon upon the tides. And Pliny says expressly, that the cause of the ebb and flow is in the Sun, which attracts the waters of the ocean; and adds, that the waters rise in proportion to the proximity of the Moon to the Earth.

To illustrate the foregoing observations, let $N E S Q$, in the annexed plate, *fig. 1.* represent the earth, covered over with water $A B D F$; $N S$ the axis of the earth, $E Q$ the equator, $T R$ the tropic of Cancer, $t r$ the tropic of Capricorn, M the Moon in her orbit, S the Sun in his. Now, since all bodies are endued with an attracting virtue, the Moon will attract all the water in the nearest hemisphere $F A B$ with degrees of force which are inversely as the squares of the distances from all parts; and therefore with the strongest force where the distance is least, viz. in the point A , directly under her: and this attraction being in this hemisphere contrary to that of the earth, the water in all parts from B to F towards A will have its gravity decreasing, and be highest of all at the part A ; and consequently must there stand higher than at the point F , where, being more attracted by the Earth, it must be heavier and nearer to the center, as is evident from the laws of hydrostatics. Again, in the hemisphere $F D B$, the attraction of the Moon conspires with that of the earth; but, decreasing as the squares of the distances increase, the joint force of attraction will every where decrease from F and B towards D , the point opposite to the Moon; where, again, the waters will be lightest, and therefore stand highest to preserve the equilibrium. Whence it appears, that,
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by this sum and difference of the Moon's and Earth's attraction, there will necessarily ensue a protuberance or swelling of the waters, which we call tides of flood, in the two points A and D directly under the Moon. Also in the two points F and B, as the waters are there most attracted, so they will be heaviest, and consequently rise to the least height from the earth's surface, whence they are called tides of ebb, or the ebbing of the water. If to the power of the Moon we add that of the Sun, we shall have the tides considerably augmented at the conjunction in S, or opposition in H, that is, at the new and full Moons, which are called the spring-tides; as those which happen when the Sun is at O or P are called neap-tides, the waters at A and D being then lowest, because the attraction of the Moon is then counterbalanced by that of the Sun. It is farther to be observed, that of the two tides of flood, at A and D, that at A is greatest to any place T in the northern latitude, when the Moon is in the northern signs, and above the horizon: for the point A is then nearer the zenith of the place G than the opposite point D is to the same place at R twelve hours afterwards; and consequently, the height of the tide T G is greater than that of the opposite tide R g. The contrary of this happens when the Moon is in the southern signs.

That there are two tides of flood, and two of ebb, succeeding each other alternately at about the interval of six hours, is obvious from the figure: and that they happen later each day near an hour, is owing to their exact correspondence to the motion of the Moon, which daily culminates so much later. That they happen not when the Moon is in the meridian, but, about three hours after, is owing to the force of the Moon being then greater than when in the meridian of any place; as the heat of the day is greater at three o'clock than at twelve; and the heat of the summer is greater in August, than at the 21st of June. Lastly, that the greatest spring-tides happen not at the 21st of March and 23d of September, but in February and October, is because the Sun being nearest the earth in December, his influence is then strongest, and so must quicken the time of the greatest vernal tides; and, being weakest in June, the time of the autumnal tides will necessarily be retarded. The sum of what has been said is this: if N O P Q, *fig. 2.* be the surface of the earth, T its center, I F K G L H C E a circle representing the spherical surface of the waters covering the earth, and affected only by the attractive power of the earth: upon placing an attracting body at S, the waters will no longer continue their spherical figure, but be immediately drawn into the spheroidical figure A C B D, in such manner as to be depressed at C and D to M and K, and elevated from L and I to A

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and B; and the elevation AL or BI is double the depression CM or DK. That, if S be the Sun, then $AP - OK = AL + KD = 25$ inches; or 113 feet, if S be the Moon. That, at the points E, F, G, H, (which are called the octants,) the water is neither elevated nor depressed. That, if any other body be placed at O, as the Moon, in the same right line TS; then, by the joint influence of both S and O, the elevation at A and B will be increased, and the depression at C and D likewise. Lastly, if S be in the situation S, or vertical to the point D, it is plain its action to raise the water D will be directly contrary to that of the Moon in depressing it there; wherefore the depression will not be so great as before; for the same reason the elevation at A and B will be diminished, being now only as the difference of the two forces, whereas before they were as the sum.

We shall now consider the phenomena of the tides which remain; and first, it is evident, that, if PN be the axis of the earth, and QO the diameter of the equator, then the Moon situated at O, over one of the poles, would accumulate the water over each pole, and the spheroid would be so posited as to have its longest axis AB coinciding with the axis of the earth PN. In this position of the spheroid, it is plain, there could be no such thing as a tide in any part of the ocean over all the earth; for every section of the spheroid, parallel to the equator, would be a circle; consequently, in any parallel of latitude, the water would be at an equal distance from the earth's surface every moment of the diurnal revolution, or natural day. Suppose the Moon were removed from the direction of the earth's axis, and posited at S, *fig. 3*, then will the axis of the aqueous spheroid AB be turned towards S, and make an angle with the earth's axis, as ATP or BTN. Then we observe, that since C, D, are the places of lowest water, that parallel IK which passes through the point I on one side the equator, and LM which passes through M on the other, will divide the earth into three zones, in two of which, viz. ENK and LMP, there will be but one tide each day of the same kind; for instance, in the parallel EF, a person at F will have high water, and at E low water for twelve hours after. Again, in all the zone IKML, there will be two tides of the same kind each day, as is evident from the figure. These limits, or the arch QI or OM, is the complement of the Moon's declination from the equator. If the Moon at S, *fig. 4*, be over the equator, the longer axis of the spheroid AB will now coincide with the plane of the equator QO, and the shorter axis CD with the axis of the earth NP. Here it is obvious, that, in this situation of the spheroid, the waters in the parts AB, with respect to those at CD, will give the greatest difference of high and low water possible to all parts of the
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the earth ; and that there is no place but those two at the poles N, P, but what has two tides of flood and two of ebb every twenty-four hours. And this difference of the flux and reflux will decrease from the equator to the poles.

It has been already observed, that the greatest elevation of the waters is not when the luminary is in the meridian, but about three hours after, because the motion communicated to the waters during the arrival of the meridian is not immediately destroyed, but remains for some time, and receives a farther augmentation from that which is impressed for about three hours after. For the same reason, we observe, the greatest and least tides happen not on the day of the syzygy, or quadrature, but on the third or fourth after ; the sum or difference of the forces of the luminaries not being till then at a maximum. Let S F E G, *fig. 5.* be the orbit of the Moon about the earth Q N O P; but, as this is not circular but elliptical, the center of the earth T will not be always at an equal distance from the Moon; but the Moon will be sometimes nearest the earth, as when at S, and sometimes farthest off, as at E. The point S is called the perigæum, or perigee; and the point E the apogæum, or apogee. The power of the Moon in her perigee is to that in the apogee nearly as TE^3 to TS^3 ; and consequently the greatest tides will be on the day of the perigee, or rather a few days after, for the reasons above mentioned.

Such would the tides regularly be, if the earth were all over covered with sea very deep, so that the water might follow the influence of the Sun and Moon; but, by reason of the shoalness of some places, and the narrowness of the streights in others, by which the tides are propagated, there arises a great diversity in the effect, not to be accounted for without an exact knowledge of all the circumstances of the several places where they happen; as the position of the land, the breadth and depth of the channels, direction of the winds, &c.

For a very slow and imperceptible motion of the whole body of water, where it is (for example) two miles deep, will suffice to raise its surface ten or twelve feet in a tide's time; whereas, if the same quantity of water were to be conveyed through a channel forty fathom deep, it would require a very great stream to effect it in so large inlets as are the channel of England and the German ocean; whence the tide is found to set strongest in those places where the sea grows narrowest, the same quantity of water being, in that case, to pass through a smaller passage. This is most evident in the streights between Portland and Cape la Hogue in
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Normandy, where the tide runs like a sluice; and would be yet more between Dover and Calais, if the tide coming round the island did not check it. This force, being once impressed upon the water, continues to carry it above the level of the ordinary height in the ocean, particularly where the water meets a direct obstacle, as it does in St. Maloes; and where it enters into a long channel, which, running far into the land, grows very straight at its extremity, as it does into the Severn sea at Chepstow and Bristol. This shoalness of the sea, and the intercurrent continents, are the reasons that in the open ocean the tides rise but to very small heights in proportion to what they do in wide-mouthed rivers, opening in the direction of the stream of the tide, as it is observed upon all the western coasts of Europe and Africa, from Ireland to the Cape of Good Hope; in all which a south-west Moon makes high water; and the same is reported to hold in the west of America. So that tides happen to different places at all distances of the Moon from the meridian, and consequently at all hours of the lunar day.

It is to be considered that, in order to allow the tides their full motion, the ocean, in which they are produced, ought to be extended from east to west ninety degrees at least. Because the places, where the Moon raises most and most depresses the water, are at that distance from each other. Hence it appears, that it is only in the great oceans that such tides can be produced, and why in the larger Pacific ocean they exceed those in the Atlantic ocean. Hence also it is obvious, why the tides are not so great in the torrid zone, between Africa and America, where the ocean is narrower, as in the temperate zones on either side; and we may hence also understand, why the tides are so small in islands that are very far distant from the shores. It is manifest that, in the Atlantic ocean, the water cannot rise on one shore but by descending on the other; so that, at the intermediate distant islands, it must continue at a mean height betwixt its elevation on one and on the other shore. But when tides pass over shoals, and through straits into bays of the sea, their motion becomes more various and complicated, and their height depends on many circumstances.

The tide that is produced on the western coasts of Europe, in the Atlantic, corresponds to the situation of the Moon already described. Thus it is high water on the coasts of Spain, Portugal, and the west of Ireland, about the third hour after the Moon has passed the meridian; from thence it flows into the adjacent channels, as it finds the easiest passage. One current from it, for example, runs up by the south of England, another comes in by the north of Scotland; they take a considerable time to
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move all this way, and it is high water soonest at those places to which they first come, and it begins to fall at those places while they are still going on to others that are farther in their course. As they return, they are not able to raise the tide, because the water runs faster off than it returns, till, by a new tide propagated from the open ocean, the return of the current is stopped, and the water begins to rise again. The tide, propagated by the Moon, in the German ocean, when she is three hours past the meridian, takes twelve hours to come from thence to London-bridge; so that, when it is high water there, a new tide is already come to its height in the ocean; and, in some intermediate place, it must be low-water at the same time. Consequently, when the Moon has north declination, and we should expect the tide at London to be the greatest when the Moon is above the horizon, we find it is least: and the contrary when she has south declination. At several places it is high water three hours before the Moon comes to the meridian; but that tide which the Moon pushes, as it were, before her, is only the tide opposite to that which was raised by her when she was nine hours past the meridian.

It would be endless to recount all the particular solutions which are easy corollaries from this doctrine; as, why the lakes and seas, such as the Caspian sea and the Mediterranean sea, the Black sea and Baltic, have no sensible tides: for lakes are generally so small, that when the Moon is vertical she attracts every part of them alike, and therefore no part of the water can be raised higher than another: and, having no communication with the ocean, it can neither increase nor diminish their water, in order to rise or fall; and seas, that communicate by such narrow inlets, and are of so immense an extent, cannot, in a few hours time, receive and empty water enough to raise or sink their surface any thing sensibly. To demonstrate the excellency of this doctrine, the example of the tides in the port of Batsha, in the kingdom of Tonquin in the East Indies, in 20 degrees 50 minutes north latitude, which are so extraordinary and different from all others we have yet heard of, may suffice. The day in which the Moon passes the equinoctial, the water stagnates there without any motion; as the Moon removes from the equinoctial, the water begins to rise and fall once a day; and it is high-water at the setting of the Moon, and low-water at her rising. This daily tide increases for about seven or eight days, and then decreases for as many days by the same degrees, till this motion ceases, when the Moon has returned to the equinoctial. When she has passed the equinoctial, and declines toward the south pole, the water rises and falls again as before; but it is high water now at the rising, and low water at the setting, of the Moon. Sir Isaac Newton, in order to account for this extraordinary tide, considers

ders that there are two inlets to this port of Batsha, one from the Chinese ocean, betwixt the continent and the Manillas, the other from the Indian ocean, betwixt the continent and Borneo. This leads him to propose, as a solution of this phenomenon, that a tide may arrive at Batsha, through one of these inlets, at the third hour of the Moon, and another through the other inlet, six hours after, at the ninth hour of the Moon. For, while the tides are equal, the one flowing in as the other ebbs out, the water must stagnate; now they are equal when the Moon is in the equinoctial; but, as soon as the Moon begins to decline on the same side of the equator with Batsha, it has been shewn that the diurnal tide must exceed the nocturnal, so that two greater and two less tides must arrive at Batsha by turns. The difference of these will produce an agitation of the water, which will rise to its greatest height at the mean time betwixt the two greatest tides, and fall lowest at a mean time betwixt the two least tides; so that it will be high water about the sixth hour at the setting of the Moon, and low water at her rising. When the Moon has got to the other side of the equinoctial, the nocturnal tide will exceed the diurnal; and, therefore, the high water will be at the rising, and low water at the setting, of the Moon. The same principles will serve to account for other extraordinary tides, which, we are told, are observed in places whose situation exposes them to such irregularities, and which appear to admit of no other solution.

When the time of high water at any place is, in general, mentioned, it is to be understood on the days of the syzygies, or days of new and full Moon; when the Sun and Moon pass the meridian of the place at the same time. Among pilots, it is customary to reckon the time of flood, or high water, by the point of the compass the Moon bears on, allowing three quarters of an hour for each point, at that time; thus, on the full and change days, in places where it is flood at noon, the tide is said to flow north and south, or at twelve o'clock; in other places, on the same days, where the Moon bears 1, 2, 3, 4, or more, points to the east or west of the meridian, when it is high water, the tide is said to flow on such point; thus, if the Moon bears S. E. at flood, it is said to flow S. E. and N. W. or three hours *before* the meridian, that is, at nine o'clock: if it bears S. W. it flows S. W. and N. E. or at three hours *after* the meridian; and in like manner for other times of the Moon's bearing. The times of high water in any place fall about the same hours after a period of about fifteen days, or between one spring-tide and another; but, during that period, the times of high water fall each day later by about forty-eight minutes. From these calculations, assisted by the observations of a number of different persons, there have been collected,